
United States Court of Appeals

FOR THE NINTH CIRCUIT

No. 15,057

MOIST COLD REFRIGERATOR Co., INC., a corporation,
Appellant,
vs.

ADMIRAL CORPORATION, a corporation, and
AMANA REFRIGERATION, INC., a corporation,
Appellees.

PLAINTIFF-APPELLANT'S BRIEF

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INDEX

	PAGE
Statement of Pleadings and Facts.....	2
Statement of the Case, The Questions Involved and The Manner in Which They Are Raised.....	8
Specification of Errors Relied Upon.....	10
SUMMARY OF ARGUMENT.....	11
ARGUMENT	15
I. THE VALIDITY OF THE PATENT IN SUIT IS CLEARLY ESTABLISHED, UNDER THE GOVERNING AUTHORITIES, BY SUBSTANTIAL EVIDENCE.....	15
A. The Invention of the Patent in Suit Satis- fied the Applicable "Standards of Inven- tion"	15
1. The Evidence Showing Invention....	16
a. the householder's refrigeration needs and the industry-wide prob- lem which the invention solved....	17
b. the prior state of the art—the prior attempts by different and less practical means to satisfy that need as shown by the record.....	19
c. the advance made by the patent in suit	22
d. the impact on the public and the industry	28
2. Potter Patent Satisfies All The Ap- plicable Standards of Invention.....	30
B. The Specification of the Patent in Suit Made the Disclosure Required by the Patent Law, 35 USCA §112, Concerning the Existence of a Fin Coil or Other Ex- tended Surface Coil.....	44
C. The Claims Were Sufficiently Definite to Satisfy the Statute.....	49

	PAGE
II. INFRINGEMENT OF THE PATENT IN SUIT BY DEFENDANTS' ACCUSED DEVICES WAS CLEARLY ESTABLISHED BY SUBSTANTIAL EVIDENCE.....	50
A. Whether or Not "They Were Cold-Wall Refrigerators As Distinguished from the Fin-Type", the Accused Structures Infringed the Claims of the Patent in Suit..	51
B. The Accused Structures Had "A Single Liquefying Unit" of the Kind Defined in the Claims of the Patent in Suit.....	53
C. Conclusion on Infringement.....	57
III. THREE PERCENT ON THE RESALE SELLING PRICE OR FIVE PERCENT ON THE MANUFACTURER'S PRICE OF THE INFRINGING DEVICES SOLD BY DEFENDANTS IS A REASONABLE ROYALTY ON THE PATENT IN SUIT.....	57
IV. DEFENDANT ADMIRAL'S INFRINGEMENT WAS WILFUL AND DELIBERATE, JUSTIFYING MULTIPLE DAMAGES AGAINST IT.....	64
V. DEFENDANTS EXERCISED DELAY AND BAD FAITH IN THE COURSE OF DEFENDING THE ACTION, JUSTIFYING AN AWARD TO PLAINTIFF OF COSTS AND REASONABLE ATTORNEYS' FEES.....	74
THE VERDICT SHOULD BE REINSTATED.....	68
CONCLUSION	71
APPENDIX A	72
APPENDIX B	66

TABLE OF CASES

Alliance Securities Co. v. DeVilbiss Mfg. Co., 76 F. 2d 503, 505, (6 Cir., 1935).....	59
Anraku v. General Electric Co., 80 F. 2d 958.....	48
Baseball Display Co., Inc. v. Star Ballplayer Co. Inc., 35 F. 2d, 1, 3 (3 Cir., 1929).....	64

Berkeley Pump Co. v. Jacuzzi Bros., 214 F. 2d 785 (9 Cir., 1954).....	37, 38
Blaw-Knox Company v. I. D. Lain Company Inc., 230 F. 2d 373 (7 Cir.).....	39
Cantrell v. Wallick, 117 U. S. 689, 694.....	54
Cochrane v. Deener, 94 U. S. 780, 787.....	54
Coleman Co. v. Holly Mfg. Co., 233 F. 2d 71, 109 USPQ 204	34, 37, 38
Covey Gas & Oil Co. v. Checketts, 187 F. 2d 561 (9 Cir., 1951).....	70
Cutter Laboratories v. Lyophile-Cryochem Corp., 179 F. 2d 80, 91 (9 Cir. 1949).....	59
Enterprise Mfg. Co. v. Shakespeare Co., 141 F. 2d 916, 920 (6 Cir., 1944).....	59
Estabrook v. Butte Anaconda & Pac. Ry., 163 F. 2d 781 (9 Cir., 1947), 28 U. S. C. §2106.....	70
Filtex Corp. v. Atiyeh, 216 F. 2d 443 (9 Cir., 1954) ..	40, 43, 63
Flakice Corp. v. Liquid Freeze Corp., 130 F. Supp. 471 (N. D. Cal., 1955).....	40
Great Atlantic & Pacific Tea Co. v. Supermarket Corp., 340 U. S. 147, 87 USPQ 303, 305.....	31
Goulds Mfg. Co. v. Cowing, 105 U. S. 253, 26 L. Ed. 987 (1882)	62
Hansen v. Safeway Stores, F. 2d, 110 USPQ 170 (9 Cir., June 27, 1956).....	2, 34, 68
Hotchkiss v. Greenwood, 52 U. S. 248, 267.....	33
Hunt, Philip D. v. Mallinekrodt, 177 F. 2d 583, 585 (2 Cir., 1949).....	15
Kwikset Locks v. Hillgren, 210 F. 2d 483 (9 Cir., 1954)	37
Loom Co. v. Higgins, 105 U. S. 580, 586.....	48
Machine Co. v. Murphy, 97 U. S. 120, 125.....	54
McClain v. Ortmayer, 141 U. S. 419, 427.....	31
Moist Cold Refrigerator Co. Inc. v. Lou Johnson Co. Inc., et al., 217 F. 2d 39, 9 Cir., cert. den. 348 U. S. 952.....	1

	PAGE
Musher Foundation v. Alba Trading, 150 F. 2d 885, 887, 2 Cir.	26
Natural Brake & Electric Co. v. Christensen, 38 F. 2d 721 (7 Cir., 1930) cert. den. 282 U. S. 864....	63
Oxnard Cannery v. Bradley, 194 F. 2d, 655.....	43
Pacific Contact Labs. v. Solex Labs., 209 F. 2d 529 (9 Cir., 1953), cert. den. 348 U. S. 816.....	40
Paramount Publix Corp. v. Amer. Tri-Ergon Corp., 294 U. S. 464, 474.....	38
Patterson-Ballagh Corp. v. Moss, 210 F. 2d 403 (9 Cir., 1953).....	40
Power Specialty Co. v. Conn Light, 80 F. 2d 874 (C. C. A. 2, 1936).....	63
Refrigeration Patents Corp. v. Stewart-Warner Corp., 159 F. 2d 972 (7 Cir., 1947).....	42
Roth V. Harris, 168 Fed. 279, 283 (2 Cir., 1909)....	70
Ry-Lock v. Sears Roebuck, 227 F. 2d 615, 9 Cir.	41
So. Pac. v. Guthrie, 186 F. 2d 926 (9 Cir.) cert. den. 341 U. S. 904.....	70
Stearns v. Tinker, 220 F. 2d 49 (9 Cir., 1953), cert. den. 350 U. S. 830.....	40
Tatum v. Gregory, 51 Fed. 446 (9 Cir., 1892).....	62
Tempeco v. Apco., 275 U. S. 319, 328.....	54
U. S. National Bank v. Fabri-Valve, 110 USPQ 77 (9 Cir., June 14, 1956).....	58
Watson v. Heil, 192 F. 2d 982 (4 Cir., 1951).....	31

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PLAINTIFF-APPELLANT'S BRIEF

This is the second appeal in this action for patent infringement. The former appeal (No. 13,811) was also from a final judgment of dismissal by the same trial Judge on defendants' motion for summary judgment of segregated issues. This Court reversed, 217 F. 2d 39, *certiorari* was denied, 348 U. S. 952, and the remaining issues (presumably only those involving issues of fact) were tried before a jury in November 1955.

A general verdict (R. 65b, 66) with answers (R. 65a-b) to special interrogatories, was returned Friday, December 2, 1955, upholding the patent as valid and infringed and awarding damages. On Monday, December 5, 1955, the Judge, without reading plaintiff's memorandum (R. 1499), delivered an oral opinion granting judgment *non obstante veredicto* and, on his own motion, provided for a new trial, should there be another reversal by this Court. (R. 72 *et seq.*, R. 1498 *et seq.*)

This brief is submitted by plaintiff-appellant in support of its appeal that this Court reverse and direct reinstatement of the jury's verdict.

Statement of Pleadings and Facts

The jurisdiction of the District Court (Complaint R. 3) is based on 28 USC §1338.

This Court's jurisdiction to review the final judgment dismissing the complaint and ordering a new trial, in the event of a reversal of said judgment (R. 70, 71), arises under 28 USC §1291.

The complaint as supplemented and amended seeks damages against defendants Admiral Corporation and Amana Refrigeration, Inc., for infringement of Reissue patent No. 23,058 (herein called variously "patent in suit" or "Potter patent") covering a household refrigerator structure. Defendants interposed numerous defenses, of which the trial Judge has sustained only two; namely, invalidity and no-infringement. In this brief we shall deal only with the defenses in so far as upheld by the Judge below. Should defendants here rely on any other asserted defenses, we shall treat them in our Reply brief.

The trial Judge held, in his oral opinion, that there was no "basis" (R. 78) for the jury's factual findings (necessarily implied by its verdict): to wit, that the patent in suit was valid; that it was infringed by defendants' accused devices; and that the damages in the form of reasonable royalty were in the amount returned. The case boils down, therefore, to a single question of law: were said jury findings supported by substantial evidence? *Hansen v. Safeway Stores*, F. 2d, 110 USPQ 170 (9 Cir. June 27, 1956).

The mechanical household refrigerator in common use for many years had serious defects. It (a) dried out the foods stored therein, making them less palatable; (b) caused

the transfer of odors from one food to another; (c) required frequent disconnection from the power circuit to allow accumulated ice on the chilling element to melt off; and (d) contained no provision for maintaining certain desired foods in uninterrupted frozen condition.

The fundamental principle of the mechanical refrigerator involves the circulation of a volatile fluid through a closed circuit, which is caused alternately to liquefy in an external condenser and then to evaporate into a gas in the chilling element located in the food chamber. In the prior conventional household refrigerator, the same freezing element such as an expansion coil served both to freeze the ice cubes and to cool the food compartment, the common arrangement being to wrap the coils around the small ice tray chamber located in the top of the food chamber, the exterior of the coils being exposed to the air of the food chamber. Because the coils had to freeze water in the ice trays, the surface temperature of the coils was considerably below 32° F.

It is an inherent characteristic of air that its capacity for retaining moisture varies with its temperature. For example, air which is at a temperature of 40° F. and a relative humidity of 85% contains 85% of the maximum moisture possible before precipitation would occur at that temperature. If the temperature of the same air is now lowered, its capacity for retaining moisture is reduced, and before it reaches the freezing temperature of 32° F. the relative humidity will exceed 100% and moisture will be condensed and precipitated out of the air.

Accordingly as the air in conventional refrigerators came in contact with the freezing coil, its temperature was sharply lowered and, as the point of 100% relative humidity was reached, the excess moisture condensed out and collected as ice or frost on the coil. The cooled heavier air settled to the bottom of the chamber, forcing the warmer lighter air up into contact with the coil, which in turn

deposited a portion of its moisture on said coil. The air which had lost moisture and settled down to the bottom became relatively dry as it warmed up to the general temperature of 40 to 50 degrees in the food compartment, and accordingly had a capacity for again picking up moisture from the food, since its relative humidity at this temperature would be about 30%. The general result was a pumping of the moisture out of the foods and its accumulation as ice on the coil. Moisture drawn from a particular food included odors and flavors which would come in contact with other foods, resulting in a mingling and transfer of odors from one food to another.

The collection of frost on the coil not only impoverished the food in the storage chamber of the desired moisture content but also, because of the insulating character of the ice film, reduced the efficiency of the machine as a whole and increased power consumption and operating cost and made it necessary frequently to disconnect the power and permit the compartment to warm up and defrost. In the defrosting period the foods in the box would be warmed up, with a consequent tendency to spoil. Such types and small quantities of food as might have been frozen in the ice trays were thawed out. But to preserve food in frozen storage, it must remain frozen continuously.

Heat flows naturally from a higher temperature to a lower temperature. The chilling substance is called the refrigerant. Various substances had been explored for their characteristic advantages and disadvantages as refrigerants. Even cooled air has been taught as a refrigerant, acting by itself (D. Ex. 110, p. 3, ll. 90-106) and also acting with another, a volatile, refrigerant (D. Ex. 101, Re 17,078). But the commonly used refrigerants in electric refrigeration are volatile refrigerants; namely, liquids that become a gas or "evaporate" at a relatively low temperature thereby absorbing much heat. The gas is then recondensed into liquid for reuse. There is no evidence that a refrigerating structure utilizing air as a refrigerant, with or without

a volatile refrigerant, can be made to operate efficiently, either for commercial or household use. In any event, structure and functioning are very different when a volatile refrigerant is used as the only refrigerant.

The volatile refrigerant has been chiefly used in two different types of refrigerator, classified according to whether or not the evaporating temperature of the refrigerant is under fixed pressure control. In the flooded or float valve system the evaporating temperature of the refrigerant is not fixed and therefore varies over a range of evaporating temperatures. This range is limited only by a thermostat, or some equivalent temperature device, controlling the circulation of the refrigerant. In contrast to this flooded or float valve system there is the direct expansion system used in the patent and defendants' accused devices in which the evaporating temperature of the refrigerant is kept constant by a pressure control device such as an expansion valve or its equivalent a capillary tube. The thermostat controlling the cycling of the refrigerant does not affect the evaporating temperature of the refrigerant in the direct expansion system.

We therefore shall concentrate further discussion on the direct expansion refrigerating structures using only volatile refrigerant.

The Potter patent (original of which was filed February 16, 1931, granted October 6, 1936) states:

“The main object of this invention is the design of a refrigerator which will make it possible at one and the same time and over long or short periods of time to perform several highly desirable tasks, namely, to form ice or freeze desserts quickly, to provide cold storage for frozen meat and food stuffs, and to provide storage for food at temperatures above freezing” (p. 1, col. 1, lines 4-11).

“The seventh object is to eliminate completely all defrosting and objectionable drying out of the foods” (p. 1, col. 1, lines 36-8).

With further reference to frozen foods, it is stated:

“* * * a refrigerator which must be periodically defrosted is unsuitable for the preservation of this class of food” (p. 1, col. 1, line 55; col. 2, lines 1-2).

The refrigerator contains two large food compartments insulated from each other, comprising an upper compartment 14 for the storage of foods in an atmosphere at about “forty degrees” (patent, p. 2, col. 3, line 29) with a high humidity, and a lower compartment at freezing temperature which is divided by a vertical metal wall into a chamber 12 for ice trays and a chamber 13 for frozen foods. A bottom compartment 11 contains the compressor, condenser and related mechanism.

Liquid refrigerant flows through pipe 24 and expansion valve 23 into the “freezing coil” 22 immersed in a brine tank. The expanded refrigerant is now at a low pressure and a corresponding sharply lower temperature approximating zero, the absorption of heat freezing the cubes in the trays in chamber 12 and through the thin metal wall to cool chamber 13 to below freezing temperatures.

The refrigerant, which is now a mixture of liquid and gas, continues from coil 22 into a cooling coil 25 located in the upper large compartment, where in absorbing further heat the remaining liquid is vaporized and the gas proceeds through pipe 26 to the compressor. The relatively large extended surface on coil 25 draws heat from the surrounding air and delivers it to the refrigerant inside the coil at a sufficiently rapid rate so that the compartment temperature is reduced to its desired level without allowing the cooling coil temperature to get so low as to accumu-

late and freeze moisture, and thus dehydrate fresh foods stored in the cooling compartment.

As is readily apparent in the drawings, the insulation for the lower freezing compartment is about twice as thick as that for the upper cooling compartment. A thermostat 31 for controlling the compressor is responsive to the coil 25 in the upper compartment. The upper compartment, having thinner insulation, will then warm up faster and will operate the thermostat to call for cooling before the less critical frozen food compartment will warm up above freezing (patent, p. 3, col. 5, lines 22-35).

Following the general description, the results and advantages are summed up in the patent as follows:

“From the foregoing it will be seen that there is provided a refrigerator having a non-frosting food storage compartment in which food may be held at desirable temperatures without undue evaporation. Secondly, that quick freezing for ice and desserts is ever available. Thirdly, that there is provided uninterrupted cold storage at freezing temperatures, and lastly, that the necessity for regulating the control system is entirely eliminated since a wide range of temperatures is provided simultaneously, and further, that not only is the necessity for defrosting eliminated entirely, but also the evaporation of the food stuffs is reduced to a minimum” (p. 3, col. 5, lines 53-66).

Such combination had a new law of organization and operation all its own, producing a new, unusual, and long desired result in a manner fully described in the specification, and precisely defined by the claims.

To avoid prolix duplication, the evidence pertinent to those jury findings which were set aside by the District Court is presented in detail in the Argument section and incorporated into the present section of the brief by reference.

Statement of the Case, The Questions Involved and The Manner in Which They Are Raised

This case was duly tried before a jury in the United States District Court for the District of Oregon, before SOLOMON, *J.* The jury returned a general verdict for plaintiff (R. 65b, 66) and answered all special interrogatories favorably to plaintiff (R. 65 a, 65 b). The Court entered judgment n.o.v. for the defendants and, without any motion by defendants, an order for new trial in the event of reversal of the judgment n.o.v. (R. 70-1). The District Court's oral opinion was included in the appeal Record (R. 72-78 and 1497-1506) by direction of the trial Judge "so that the Court of Appeals will know the reasons which motivated me to enter a judgment in favor of the defendants" (R. 78, 1506). Doubtless, the trial Judge used the word "judgment" here to include both the judgment n.o.v. and the order for a new trial, contained in a single document, since the oral opinion, as transcribed, gives his grounds for both and such document was drafted to carry out the holdings of the opinion (R. 1507).

The trial Judge's said grounds were that there was no substantial evidence to support the following jury findings of fact, all of which were (among others) necessarily involved in the general verdict for the plaintiff:

- I. With respect to validity of the patent in suit:
 - A. The invention of the patent satisfied applicable "standards of invention" (R. 72-74);
 - B. The specification of the patent in suit made the disclosure required by the Patent Law, 35 U.S.C.A. §112, concerning "the existence of a fin coil or other extended surface coil" (R. 74);
 - C. The "claims were sufficiently definite to satisfy the statute" (R. 74).

II. With respect to infringement by means of the accused devices:

- A. Whether or not "they were cold-wall refrigerators as distinguished from the fin-type", the accused structures infringed the claims of the patent in suit (R. 75);
- B. The accused structures had "a single liquefying unit" of the kind defined in the claims of the patent in suit (R. 75);

III. With respect to damages:

"3 per cent on the [resale] selling price or 5 per cent on the manufacturer's price" of the infringing devices sold by defendants is a reasonable royalty under the patent in suit (R. 76).

The basic questions involved are whether the trial Judge erred in holding that there was no substantial evidence to support the aforesaid enumerated factual findings underlying the verdict of the jury.

Should the above questions be resolved in favor of the jury's findings, two additional questions are raised, both with respect to issues not submitted to the jury; namely, did the trial Judge err in refusing to find as follows:

- IV. Defendant Admiral's infringement was wilful and deliberate, justifying multiple damages against it (R. 5);
- V. Defendants exercised delay and bad faith in the course of defending the action, justifying an award to plaintiff of costs and reasonable attorneys' fees (R. 5).

On these two questions, evidence (R. 1076-1144) not before the jury should be considered.

The questions are raised by notice of appeal from the judgment and order, duly served and filed (R. 79).

Specification of Errors Relied Upon*

The trial Judge erred:

1. In holding that there was not substantial evidence to support each of the jury findings specified in the previous section of this brief (I-III, *supra*). The evidence and the applicable authorities overwhelmingly support the jury's verdict and show that the trial Judge erred as a matter of law in entering judgment n.o.v. and in directing a new trial in the event of reversal of said judgment. Such error of law included abuse of discretion.

2. In failing to find for plaintiff on the two issues specified in the previous section of this brief (IV, V, *supra*), to be decided not by the jury, but by the court.

* Plaintiff's detailed Statement of Points required to be printed in the record appears at R. 80-84. For purposes of clarity and conciseness, the Argument is organized according to the classification set forth in the previous section of this Brief.

SUMMARY OF ARGUMENT

I

A. The invention of the patent in suit satisfied the applicable standards of invention. We show this by citing the pertinent evidence, all of which was ignored in the opinion below; and by applying to the invention the standards of invention laid down in the authorities—both, the standards mentioned by the trial Judge and the significant ones he overlooked.

For a long time before 1930 the refrigeration industry recognized an important practical and perplexing problem: how to devise a unitary machine—using volatile refrigerant, only, under fixed pressure control—to provide the householder, simultaneously and uninterruptedly, with two kinds of incompatible refrigeration; namely, (1) *dry* freezing and (2) *moist* cold. The prior art, represented in the record by patents and the actual practices of the industry, demonstrates the prior unsuccessful attempts to solve this problem. The Potter patent finally solved the problem by teaching a new type of household refrigerator. The industry and the public promptly recognized it as an important, new development, and adopted it as a new, standard type of dual-climate refrigerator, known in the industry as the “Moist Cold” refrigerator.

Detailed analysis of the patent demonstrates that: the combination had a new and useful function or operation; elements had, in the combination, a different and added function than out of it, with unusual or surprising, and highly beneficial, consequences; and the thing patented was a single device, incapable of separation or division. Patentable invention is demonstrated by the facts of history. Other skilled workers in the art with the same well known tools at hand tried and failed to solve that very problem which the patent in suit solved. The presumption of patentability from issuance and reissuance has

here been strengthened by the adjudication in the Stewart-Warner case over the most pertinent art cited here. The trial Judge did not resolve all conflicts, and draw all inferences, favorable to the patent, which the jury's verdict for plaintiff required him to do.

B. The specification of the Potter patent made the required disclosure. Here, again, the Judge below disregarded the evidence and the patent law. The specification clearly disclosed, for the moist cold compartment, the use of a refrigerant-carrying coil with heat-withdrawing extensions, always above 32° F.; i.e. a non-frosting coil. The description in the specification, aided by the showing in the drawings, has had the administrative approval of the Patent office twice; and the competent opinion of an admittedly qualified patent expert was credited by the jury on this point.

C. The patent claims satisfied the requirement of definiteness. Judge Solomon expressed here a mere, completely unparticularized "doubt" whether the claims were sufficiently definite. This flies squarely in the face of the presumption of proper form of claims passed upon by the Patent office experts and the clear interpretation by the plaintiff's patent expert, accepted as correct by the jury.

II

With respect to the two particulars on infringement, discussed by the trial Judge, the Judge's statements of fact are unsupported by the record. But, further, granting them *arguendo*, they do not lead to his conclusion of no-infringement.

A. The claims of the patent in suit read squarely on the accused devices, which have a cold wall, since that cold wall is merely a fin or other heat-withdrawing surface for a volatile refrigerant-conveying coil. The claims are not

limited to any particular kind of heat-withdrawing surface for such coil.

B. The accused structures have only a "single liquefying unit", as called for by the patent claims. (A liquefying unit condenses refrigerant evaporated by *extracting* heat.) Defendants' devices both have, indisputably, only a "single liquefying unit" of the kind defined in the claims of the patent in suit; namely, one which condenses the refrigerant conveyed by their *two* primary series coils, for, respectively, the freezing and the moist cold compartments.

III

Coming to the reasonable royalty fixed by the jury, as damages for infringement, we demonstrate, from the evidence and the authorities, that the trial Judge applied erroneous rules to measure the fair value of the patent. Thus he arbitrarily held that, what he called a "minor" patent, could not be worth 3 per cent of the resale price of the accused devices (5 per cent on manufacturer's price). He arbitrarily substituted his opinion for that of the jury as to the importance of the patent. He ignored the record, including the supported and uncontested opinion of the only expert who testified on the matter and who recommended a royalty rate twice that found by the jury. He confused the *technical* status of the patent in the art with its real *commercial* value. He refused to consider the invention of a standard new type of household refrigerator. He failed to place the burden on the infringing defendants as wrongdoers. The jury's verdict as to a reasonable royalty rate, far from shocking the judicial conscience, was *less* than was warranted by the proof and analogous decisions.

IV

Defendant Admiral's infringement was wilful. Damages against it should therefore have been trebled by the trial court.

V

Similarly, because defendants practiced delay and bad faith in defending the suit, they should have been required to pay costs and reasonable attorneys' fees.

Finally, the gratuitous direction for a new trial, just like the judgment n.o.v., was grounded, as the opinion below plainly shows, *solely* on rulings of law. Since these were "plainly erroneous" (Rule 52a), the order for a new trial, as well as the judgment n.o.v., should be reversed. If the order is assumed, *arguendo*, to have been based on discretion, that discretion was plainly abused, for: this is the second jury vindicating the patent against Admiral (and Admiral's predecessor); the Judge ruled that the trial was full and fair and that the verdict did not reflect prejudice by the jury; and the evidence *overwhelmingly* supports the verdict. Such abuse of discretion is, in itself, reversible error of law.

In short: the verdict for the plaintiff should be reinstated, with treble damages against Admiral and costs against both, to include attorneys' fees.

ARGUMENT

I. THE VALIDITY OF THE PATENT IN SUIT IS CLEARLY ESTABLISHED, UNDER THE GOVERNING AUTHORITIES, BY SUBSTANTIAL EVIDENCE.

A. The Invention of the Patent in Suit Satisfied the Applicable "Standards of Invention".

The patent in suit (Re. 23,058), relates generally to the art of refrigeration and particularly to a new household refrigerator structure. Each element in the combination was old in the art. As said in *Philip D. Hunt v. Malinckrodt*, 177 F. 2d 583, 585 (C.A. 2, 1949) "almost all inventions are combinations of old elements whose selection as a new unit gives them their only importance."

Pursuant to the trial Judge's instructions on the law, the jury found, by its verdict for the plaintiff, that the Potter patent, in respect to all its four claims to invention, satisfied the "standards of invention" laid down in the authorities. Additionally, the jury found, in response to special interrogatories (R. 65 a, 65 b), that the Potter patent combination did (a) "produce some new and different function, one that has unusual or surprising consequences"; that it constituted (b) "invention over the Anderson patent"; and it constituted (c) "invention over what is shown in the Anderson patent plus the Larkin patent". Defendants conceded that there was no patent closer to the patent in suit than Anderson (R. 1338). The evidence showing invention over Anderson is clear and is set forth below (p. 20). It is undisputed that the Larkin patent combination was of the flooded or float valve type (*supra* p. 5); it operated on an altogether different principle than the Potter patent, was an entirely different structure and also did not produce the results of the patent in suit. But one of the elements in the Larkin combination was a finned coil, old in the refrigeration art. It was to this that the special interroga-

tory referred. A finned coil is only one example of an extended surface coil of which there are a number of examples, all old in the art. The combination of the Potter patent is not limited to any particular type of surface on a coil; such as fin, brine tank, etc. The jury's affirmative answer was a finding that the Potter combination constituted an inventive advance over the Anderson patent and the prior existence in the art of coils with extended surfaces. This finding is fully supported by the evidence set forth below (pp. 16-30).

In his oral opinion setting aside the verdict, Judge Solomon did not discuss or even refer to the evidence in the record bearing on the real invention. Parenthetically, it may be noted that he did not question the utility or operativeness of the combination and he did not sustain the technical defense of anticipation or lack of novelty. He merely listed the elements of the combination and forthwith stated his naked, ultimate conclusion that the combination did not satisfy the standards of invention which he specified (R. 73). The evidence before the jury, which was ignored in the lower court's opinion, plainly demonstrates invention, not only under the statutory standard and the governing authorities, but even under the trial Judge's inadequate statement of the rule.

We shall first set forth the evidence, and then consider the standards of invention in their application to the Potter patent.

1. THE EVIDENCE SHOWING INVENTION

The invention of the Potter patent founded a new type of household refrigerator. It promptly became and has now long been a standard recognized "Moist Cold" type (Siragusa R. 1026) in the industry. It contributed a new structure having a new mode of operation and function, for which defendants and society at large are truly indebted.

For the first time it met all the conflicting requirements of food preservation in the home in a practical commercial way.

The discussion of evidence supporting all this is grouped under the following headings: (a) the householder's need and the industry wide problem which the invention solved; (b) the prior state of the art—prior attempts to satisfy that need by different and less practical means are shown by the record; (c) the advance made by the patent in suit; and (d) the impact on the public and the industry.

a. the householder's refrigeration needs and the industry-wide problem which the invention solved

The householder needs ice cubes for iced drinks, a means for sharp freezing certain foods, and a means for maintaining certain foods in frozen condition for extended periods prior to use. Structures like ice cream cabinets which provided below-freezing temperatures were in 1930 old in the art; by the use of various well-known means they maintained on the heat withdrawing surfaces, which were exposed to the air in the compartment's space, a temperature substantially below 32° Fahrenheit. At this below-freezing heat-withdrawing temperature, the air in the compartment drops below 32° F. and so freezes the contents stored therein.

The householder also needed a means for preserving certain moisture-containing foods, such as fresh meats, fruit and vegetables. The temperature of the air surrounding such foods should be low enough to inhibit bacterial and mold growth. But the lower said temperature goes, the lower becomes the temperature of the food. As temperature goes down, moisture is given up. At a heat-withdrawing surface temperature below 32° Fahrenheit moisture precipitates on the surfaces in the form of frost. Moreover, even if the air in the compartment is prevented from

falling to 32° F. by means of a thermostat, for example, the undesirable moisture-drawing effect and undesirable frosting of the heat-withdrawing surfaces both occur when the temperature of those surfaces is below 32° F. For fresh foods and the like, then, the need was for maintaining a low but above-freezing temperature at the heat-conducting surfaces intermediate the cooling refrigerant and the air in the compartment. This gives a low enough temperature of the air and food to inhibit bacteria and mold, without drawing excessive moisture from the air and food in the compartment. A compartment temperature of about 40° Fahrenheit satisfied this joint requirement for the proper storage of moisture-containing foods. Structures like special purpose cabinets which could satisfy such need were also old in the art in 1930; by various well-known means they maintained both at the heat-withdrawing surface and in the air of the compartment's space, a low temperature but above 32° Fahrenheit.

The two sets of needs, viz (1) refrigeration of frozen foods (including ice-cubes) and (2) refrigeration of moisture-containing foods, involved incompatible requirements. Well below 32° F. on the heat-exchange surface was needed for ice-cubes, sharp freezing, and maintenance of frozen foods, but it caused dehydration of moisture-containing foods. This then was for a long period the practical problem in the industry: devising a unitary machine to provide simultaneously for both kinds of refrigeration, namely, (1) freezing and (2) moist cold. This was the householders' refrigeration need.

Said need constituted a recognized, industry-wide problem (R. 643 *et seq.*, particularly 654; R. 704-706). All the large electric refrigerator manufacturers united for their common purpose of advancing electric refrigeration in the home and replacing the old ice boxes. The Food Preservation Council of America was formed in 1927. Plaintiff's witness Zimmerman, its first president (R. 704-6), testified

that humidity control was "definitely" a problem of the dry cold electric refrigerator manufacturers (R. 706) led by his company, General Electric and by Frigidaire. He later became vice-president of Norge (1937-9) and of Chrysler (1941-5) refrigeration and was and is a wholly disinterested witness. Quinn (R. 643-701) testified that Frigidaire was five years ahead of G.E. in 1925 (R. 655) and that it, too, had a large research staff, as did Kelvinator (R. 659), the third largest electric refrigerator manufacturer in those days (as indeed today). As vice-president, in charge of the refrigeration department of G.E., he used to discuss this food dehydration problem with the heads of these other companies. He said (R. 654) that the "whole industry" had this serious problem.

Said householder need and industry-wide problem was not effectively met and solved by the prior art.

b. the prior state of the art—the prior attempts by different and less practical means to satisfy that need as shown by the record

The invention of the patent in suit was conceived and reduced to practice by late 1929 or early 1930. The prior state of the art is shown in the record by patents issued two years before the filing date and by the then-current actual practices of the refrigeration industry. The prior art had not solved the problem.

The undisputed and decisive fact is that nowhere in the prior art, whether in the patents issued before the invention or in the contemporaneous actual practice, is there taught a unitary, direct expansion machine by which a single volatile refrigerant provides, at the heat-exchange surfaces, simultaneously and uninterruptedly, both below 32° F. and above 32° F. temperatures. The important need in household refrigeration—a single machine using volatile refrigerant, to provide simultaneous and continuous dry cold below-32° F. and moist-cold, above-32° F. temperatures—

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had not been filled prior to the invention of the Potter patent.

Defendants do not cite any prior patent which even purports to teach a direct expansion machine, operating on one volatile refrigerant, that maintains at all times two different heat-exchange surface temperatures, one below and the other above 32° F. They cite the Anderson patent as the closest to the patent in suit (R. 1338). The Anderson patent is in evidence (D. Ex. 105); there is just nothing in it that teaches simultaneous and continuous maintenance of different temperatures, below and above 32° F., *at the heat-exchange surfaces*, where the heat transfer is effected from the compartment (air and food) to the refrigerant. In Anderson, the heat-exchange surfaces in *both* compartments are necessarily at a temperature below 32° F. (R. 623-6; 825-6; 866-9; 1243-4). Thus moisture-containing foods will lose moisture, and the heat-exchange surfaces gather frost, so long as the Anderson machine continues to circulate refrigerant.

Neither do defendants cite any prior art practice of a unitary, direct expansion machine by which volatile refrigerant alone is circulated to maintain both above-32° F. and below-32° F. temperatures on different heat-exchange surfaces, at all times.

Indeed, the record shows affirmatively that in the actual practice before the invention in suit, household refrigerators did not provide, simultaneously and uninterruptedly, both below-freezing and moist-cold temperatures. The conventional household refrigerators *on the market* in 1930 and before circulated volatile refrigerant so as to obtain *not two, but only one, temperature at the heat-exchange surface*. That heat-exchange surface temperature was considerably below 32° F., in order to freeze ice-cubes. Thus, the household refrigerator in the actual commercial practice of the prior art fell far short of providing for important needs: it did not provide continuous temperatures needed for ice-cubes and frozen foods; it dried out moisture-con-

taining foods; its efficiency deteriorated as heat-exchange surface accumulated frost; and it required frequent manual defrosting by the housekeeper (R. 427-30; 515-9; 527-8). It also required a manual adjustment of the thermostat to take care of faster freezing, variable loads and changing seasons. It had the special hazard that, if set for faster freezing for ice cubes, and forgotten, as happened not uncommonly, it froze all the food in the refrigerator.

The large manufacturers adopted two devices which are significant as to the prior state of the art. Frigidaire placed in the conventional refrigerator the so-called "hydrator". This was nothing but a covered tray for moisture-containing foods. The cover retarded loss of moisture somewhat, but it accelerated spoilage by preventing air circulation in the tray (R. 526-9; 628; 654-60). General Electric for a short while promoted the sale of two refrigerators strapped together and placed on one set of legs; one refrigerator could be operated colder than the other (R. 664-5). But of course this was two machines, not one; and the basic requirement of simultaneous temperature operation of heat-exchange surfaces, one at above 32° F. and the other at below 32° F., was not met by either the Frigidaire or the General Electric makeshifts (R. 527-8; 654-60; 707-9; 716-21). That such devices were resorted to by leading manufacturers demonstrates that the problem was both acute and unsolved.

Frigidaire, General Electric, Kelvinator, Stewart-Warner, etc., had numerous refrigeration engineers as well as regular research laboratories (R. 527-9; 588; 659). Yet they did not produce any solution. The prior art, patents and practice, was silent on a unitary, volatile refrigerant direct expansion machine to provide, continuously and without interruption, below-freezing and moist-cold temperatures, both needed by the house-wife. Although those skilled in the art addressed themselves to the problem, years went by with no solution. *The actual facts of history*

demonstrate that the solution was far from "obvious" and required skill much above the "ordinary" skill in the art. The problem was solved, finally, toward the end of 1929 or the beginning of 1930, by the invention of the patent in suit.

c. the advance made by the patent in suit

The basic insight of the Potter patent is that a single practical mechanism of direct expansion type can be constructed to circulate a single volatile refrigerant which—although evaporating throughout at a *temperature below 32° F.*—*will nevertheless simultaneously and continuously maintain two heat-exchange surface temperatures, one below 32° F. and the other above 32° F.* This was done in the Potter patent combination by operating, simultaneously, and with a single volatile refrigerant device, two balanced and differently proportioned heat-exchange surfaces. Note that devices for circulating and evaporating volatile refrigerant were old in the art. Operating, with such devices, heat-exchange surfaces, at below 32° F., was old in the art, as in ice cream cabinets. Operating, with such devices, such heat-exchange surfaces, at above 32° F., was also old in the art, as in special purpose cabinets. But devising a unitary machine with such device, to operate simultaneously two balanced heat-exchange surfaces of differing proportions, one at below 32° F. (frosting) and the other at above 32° F. (non-frosting), was first taught by the patent in suit.

All claims of the patent in suit are for a unitary machine embodying this invention. It will suffice, here, to quote broadest claim 2:

“2. A household refrigerator which in normal operation provides above-freezing moist cold air for preserving in a refrigerated condition foods susceptible to moisture loss by evaporation and below-freezing dry cold air and a dry cold surface for preserving foods in a frozen condition, said refrigerator comprising”

(a) "a cabinet having a cooling compartment and a freezing compartment,"

(b) "thermal insulation around said compartments thermally insulating said compartments from each other and from the outside atmosphere,"

(c) "a cooling refrigerant expander having heat-conducting surfaces within said cooling compartment and constructed and arranged to maintain its heat-conducting surfaces at a temperature above 32° F. while withdrawing heat from said compartment, whereby air in said cooling compartment is cooled thereby to a temperature above 32° F. and is maintained at a humidity whose relative value is at least 100% at 32° F.,"

(d) "a freezing refrigerant expander having heat-conducting surfaces within said freezing compartment and constructed and arranged to maintain its heat-conducting surfaces at a temperature well below 32° F. while withdrawing heat from said compartment whereby air in said freezing compartment is cooled thereby to a temperature well below 32° F.,"

(e) "volatile refrigerant in said expanders,"

(f) "a single liquefying unit associated with said expanders and constructed and arranged to condense refrigerant expanded by heat extracted from both said compartments, the volatile refrigerant circulating through said expanders being the sole heat-extracting medium,"

(g) "and a thermostat responsive to the temperature in one of said compartments controlling the operation of said liquefying unit."

The claim is plain and readily understood. It defines a new combination of interrelated elements, each admittedly

old. The refrigerator combination comprises a cabinet or box. Within the cabinet are three compartments, two of which are differentially insulated: the first, uninsulated, contains the condensing unit; the second, called the freezing and cold storage compartment, is for ice cubes and frozen food; and the third, the cooling compartment, is for moisture-containing foods. The freezing compartment and the cooling compartment are cooled, each by a coil that carries the single volatile refrigerant, which evaporates throughout at the same temperature. Such a coil, with its heat-exchange surface, is called an "expander having heat-conducting surfaces". For the freezing compartment, the expander is constructed and operated to maintain its heat-exchange surface at well below 32° F. For the cooling compartment, the expander is constructed and operated to maintain its heat-exchange surface at above 32° F., so that the air in the cooling compartment is kept moist cold above 32° F. Both expanders are in series; that is, operated one following the other by means of a single duct on the direct expansion principle. That duct carries volatile refrigerant as the only medium extracting heat from both the freezing and cooling compartments. The heat changes the volatile refrigerant into gas which is recondensed into liquid to be reused in the circuit. A single liquefying unit performs said condensation. The liquefying unit is turned on and off by one thermostat which may be made sensitive either to the temperature in the freezing or to that in the cooling compartment (R. 757-778).

This was much more than merely putting together a dry cold box and a moist cold box. The Potter patent extracted heat from both compartments by the same volatile refrigerant evaporating at a well below freezing temperature and condensed by the same liquefying unit. The patent discloses heat-withdrawing surfaces in a direct expansion system in ratio, so that those of the cooling compartment will not collect frost, being always above 32° F. while those of the freezing compartment are always well below 32° F.

Cycling of the refrigerant is controlled by a thermostat responsive to temperature in either one of the compartments. This combination as a whole brought about, simultaneously and continuously, below-freezing in one compartment and moist cold in the other. The refrigerator of the Potter patent was a novel, unitary structure, a new combination of old, newly interrelated elements.

That the combination of the Potter patent is useful is indisputable on this record; and we submit that elementary analysis demonstrates that said combination performed a new function or operation. No previous unitary, volatile refrigerant machine of the direct expansion type had functioned or operated simultaneously at two maintained heat-exchange surface temperatures, one below 32° F. and the other above 32° F., thereby providing continuous freezing and continuous moist-cold, and without manual shut down of the machine for defrosting.

Likewise, we believe it evident that elements in the device performed an additional and different function than they performed out of it. The elements co-acted in the Potter combination to produce a new type of refrigerator. Never before, had an expander with heat-conducting surfaces always at well below 32° F. temperature and an expander with heat-conducting surfaces always at above 32° F. temperature been balanced to function or operate on a single, direct expansion system in a refrigerator. A single volatile refrigerant operates in the Potter patent combination, progressively, in two different expanders; one with above, the other with well below, freezing heat-withdrawing surface temperatures. Never before, had a single volatile refrigerant circuit so functioned or operated. Plainly, the elements in the combination of the Potter patent did act differently from their action in the past and the combination thus exceeded the sum of its parts.

Moreover, the patent taught, for the first time, a new composite control of the three variables which must be

correlated to get the balanced operation and long desired results needed under normal operating conditions. Fundamentally new operation and functioning were involved in the combination of devices to sense, control and bring about a *unitary* operation according to a balance of (1) compartment temperature (thermostat), (2) refrigerant temperature (expansion valve or other pressure control), and (3) freezing compartment dry cold and cooling compartment moist cold (heat exchange surface temperature). That unified, balanced operation of three coordinated controls was a vital additional and different function which was not present out of the combination, first taught by the patent in suit and precisely claimed therein. The combination of those three correlatives was, in a very real sense, a novel and highly inventive concept. As Judge L. Hand so aptly said in *Musher Foundation v. Alba Trading*, 150 F. 2d 885, 887, (2 Cir.), "The combination of two correlatives constitutes a single element * * *."

Furthermore, the combination has unusual or surprising consequences. In the Potter patent, the same volatile refrigerant, evaporating at a temperature below 32° F., nevertheless simultaneously and continuously maintains one heat-withdrawing surface at a temperature below-freezing and another such surface at above-freezing temperature. For the first time, the household was provided with a practical, fully-automatic, refrigerator giving both continuous freezing and continuous moist cold temperatures. Frozen food could be kept in frozen storage as long as desired; ice cubes need never melt; fresh meats, fruits, and vegetables and other foods could be refrigerated over long periods without dehydration and without undesirable changes in color, odor, and flavor; frequent periodical shut-downs to defrost were eliminated — all this in the most

efficient type of household refrigerator yet devised. These consequences were, we submit, most unusual and surprising in 1929 or early 1930, when the invention of the Potter patent was made.

So much for the advance in the art made by the invention defined in broad claim 2 of the Potter patent, claim 1 being in substance the same.

Claims 3 and 4, the remaining claims, are in substance the same as each other. In addition to all the elements of claims 1 and 2, each specifies two further limitations as follows: *first*, the thermostat (which in claims 1 and 2 may be made responsive to the temperature of either the freezing or the cooling compartments) is made responsive to the temperature of the cooling compartment, because the range of temperatures permissible in the cooling compartment is narrower, and so requiring more precise control, than that of the freezing compartment (patent P. Ex. 2, col. 4, lines 23-45); *second*, and to co-aet with the thermostat, the thermal insulation (which in claims 1 and 2 may be equal for both compartments) is proportioned to offer less resistance to the flow of heat into the cooling compartment than into the freezing compartment. This assures starting of the liquefying unit, by heat flow into the cooling compartment, before the temperature of the freezing compartment approaches a non-freezing level (col. 5, lines 20-52, col. 9, lines 33-42).

Claims 3 and 4 thus define a preferred form of the broader combination defined in claims 1 and 2. So we need note here only the novelty of the features added to claims 1 and 2 by the subcombination of 3 and 4. These had a new and useful functioning or operation. Never before, in any refrigerator, had the temperatures of a freezing compartment and of a cooling compartment been kept at a *coordinated difference of level* by interrelating: (1) the proportionate amounts of insulation around each compartment, *with* (2) control of refrigerant circulation by the temperature of the cooling compartment. This coordinated

regulation provided an economical and efficient machine. Likewise, the elements had a different and additional performance or operation in the preferred form than out of it. Thinner insulation around the *cooling* compartment and control of temperature of said compartment had the novel function of controlling the temperature of the *freezing* compartment. Thus the preferred combination was itself more than the sum of its parts. Finally, the consequences of the preferred combination were surprising or unusual. The cooling compartment temperature, itself maintained at one range, helped maintain a different temperature range for the freezing compartment.

There resulted, from the combination defined by claims 1 or 2 and its preferred form in claims 3 or 4, a nicely balanced, efficient, automatic, all-purpose household refrigerator under interrelated and coordinated controls. The public and industry reaction to the Potter patent confirms the fact that it was an important advance in the art of household refrigeration, satisfying a long-felt need.

d. the impact on the public and the industry.

After many months of endless discussion and experimental work culminating about the end of 1929 or beginning of 1930, as testified to by the patentees with corroboration by several of their associates and employees (Bade, Herrmann, Bartlett, etc.), the first commercially saleable unitary two-humidity refrigerator, embodying the invention of the Potter patent, was constructed. It became known as the Barry refrigerator because it was sold to a Mr. Jack Barry in 1931. Next the "McChesney" refrigerator, from which the patent drawings were made, was built. Mr. McChesney testified to over 19 years of satisfactory service (1931-1950) by that original refrigerator, which is plaintiff's exhibit 11A.

The Potter Company moved to Buffalo and, prepared for national distribution, announced in February 1932, by

a 20-page spread in Refrigeration News (Ex. 3U), its new type of refrigerator.

The impact on the trade and public was impressive. There was no refrigerator like the Potter, on the market (Kobernuss, R. 426-7, Quinn, R. 652-663, Zimmerman, R. 704-711, Bartlett, R. 252, McChesney, R. 238). Hundreds were sold, mostly replacing, significantly, conventional dry cold refrigerators (Kobernuss, R. 434).

Bommer, the chief engineer of the then famous Jewett Company, designers of high quality special refrigerating equipment, left to become chief engineer of Potter because, to that experienced refrigeration designer, the potential of the invention warranted his doing so (R. 505).

Such large producers as Frigidaire and General Electric were sensitive to the Potter accomplishment. General Electric brought out the twin compressor unit idea in about 1933 (Quinn R. 664-5, Zimmerman R. 708-9), Frigidaire twice reissued its Gibson patent (not in the prior art) to get claims to frozen storage. This afterthought was obviously the result of the Potter activity, for Gibson refers to new developments in defendants' Ex. 118A at pp. 38-9, as then giving promise. Kelvinator also made abortive attempts at two climate food storage (Potter R. 338-341).

Hull and other authorities wrote of its promise. Even Muffly, defendants' expert witness, proclaimed in 1941 that "in a few years a refrigerator in which frost is visible when you open its outer door will look like an automobile with a starting crank hanging on the front" (R. 1341).

Quinn, the official in charge of refrigerators for General Electric at the time, testified (R. 659, 661-3) as to the dramatic effect on the large refrigerator manufacturers of the 1932 announcement of refrigerators made under the patent in suit. He said: "We all recognized" that if this fundamental solution of the dehydration problem had been in the hands of any one of the three leading manufacturers,

all would have had to adopt it. But because such a radical change would have increased costs "we thought the market was not ready" (R. 668-670).

Stewart-Warner, defendant Admiral's predecessor, came to Potter for a look at the then pending application for the original Potter patent under the pretense of taking a license. The patent files were not disclosed, but Potter did send the new, moist cold refrigerators to Stewart-Warner for test and study, which was done (Bommer, R. 548-9). Subsequently, Stewart-Warner announced its "Dual-Temp" line. Defendant Admiral purchased Stewart-Warner's refrigeration business, taking over its key refrigeration engineer Morton and "know-how", including, of course, that gleaned from tests of the Potter refrigerators before the original of the reissue patent in suit issued. Admiral in effect admitted that the machine of the Potter patent was inventive by imitating it (even more closely than did Stewart-Warner, which, unlike Admiral and the Potter refrigerator, had two refrigerant pressures (R. 969)).

The public and industry reaction leaves no doubt whatever that the Potter patent refrigerator was a long stride forward in the art and satisfied a long-felt need.

2. POTTER PATENT SATISFIES ALL THE APPLICABLE STANDARDS OF INVENTION

The evidence we have reviewed above, unappreciated and therefore ignored by Judge SOLOMON in his oral opinion, gives substantial—and, we submit, more than ample—support to the jury's finding that the Potter patent complies with the applicable standards of invention. We submit that he also failed to keep in true perspective the recognized criteria which courts have set to aid in the determination of this question.

The trial judge failed to appreciate that the negative doctrine of "aggregation" is, like all other such doctrines, a mere guide to aid the court in resolving issues of patentability or invention. Patent cases are *sui generis* in this respect. In the *A. & P.* case, 340 U.S. at 151, the opinion of the court, after pointing out that the concept of invention is "inherently elusive when applied to combination of old elements", repeats the classic statement of Mr. Justice BROWN in *McClain v. Ortmyer*, 141 U. S. 419, 427:

"The truth is the word cannot be defined in such manner as to afford any substantial aid in determining whether a particular device involves an exercise of the inventive faculty or not. In a given case we may be able to say that there is present invention of a very high order. In another we can see that there is lacking that impalpable something which distinguishes invention from simple mechanical skill. Courts, adopting fixed principles as a guide, have by a process of exclusion determined that certain variations in old devices do or do not involve invention; but whether the variation relied upon in a particular case is anything more than ordinary mechanical skill is a question which cannot be answered by applying the test of any general definition."

We have no doubt as to the correctness of the holding in the *A. & P.* case, or as to the language of the whole opinion, when properly applied to any comparable fact situation, as this Court and others have been quick to do. It has been much overworked by infringers brought to book, however, probably because of statements which can be lifted out of context and urged without the facts in mind. This, Judge SOLOMON seems to have done here.

In *Watson v. Heil*, 192 F. 2d 982 (4 Cir., 1951), the trial court held invalid a patent on a particular form of shopping cart. The Court of Appeals reversed and remanded, for

consideration of much less evidence of invention than has been presented here. The District Court's careful opinion at 96 F. Supp. 61, 67-68 clearly shows that the then recent decision in the *A. & P.* case resulted in excluding from consideration such evidence. The Court of Appeals held this reversible error, stating (at 984-5):

“Without attempting to assess the value of the proffered evidence, indeed we are in no position to do so since the defendant was not called upon to controvert or explain it, we think that it is at least entitled to consideration; for it bears on the question whether in fact the disclosures of the patent involved invention. When it is shown that a mechanical problem has persisted for some time, and men of ordinary skill in the art have failed to meet it when it is to their interest to do so, there is at least some ground for the conclusion that it was beyond their capacity. Such a circumstance has not infrequently been held sufficient to carry a discovery across the inventive line. Thus in the well known case of *Eibel Process Co. v. Minnesota & Ontario Paper Co.*, 261 U.S. 45, 43 S.Ct. 322, 67 L.Ed. 523, a very simple change in paper making machines solved a difficulty that had long plagued the industry and was given the status of invention, largely because it had been long sought in vain by practical men in the field. The court said, 261 U.S. at page 68, 43 S. Ct. at page 330: ‘The fact that in a decade of an eager quest for higher speeds this important chain of circumstances had escaped observation, the fact that no one had applied a remedy, for the consequent trouble until Eibel, and the final fact that, when he made known his discovery, all adopted his remedy, leave no doubt in our minds that what he saw and did was not obvious, and did involve discovery and invention.’ See also *Oles Envelope Corp. v. Baltimore Paper Co.*, 4 Cir., 89 F. 2d 279, 285; *Oates v. Camp*, 4 Cir., 83 F. 2d 111, 115; *Hoeltke v. C. M. Kemp Mfg. Co.*, 4 Cir.,

80 F. 2d 912, 919; *Safety Car Heating & Lighting Co. v. General Electric Co.*, 2 Cir., 155 F. 2d 937, 939; *Pointer v. Six Wheel Corp.*, 9 Cir., 177 F. 2d 153, 160.”

That was a trial to the Court and not before a jury. In the instant case the jury was permitted to consider such evidence and defendant was given every opportunity to controvert or explain it. So there is no occasion to remand this case for any such reason.

It is abundantly clear that the Court of Appeals for the Fourth Circuit on the basis of the decisions cited in the above quotation squarely held that it was error not to consider and assess the weight of such evidence on the issue of obviousness. Clearly the trial Judge erred in holding that the record made presented no substantial evidence of invention for submission to the jury.

In the light of the facts showing the existence of a need and industry-wide problem, the vain attempts of others to solve the dehydration problem, its practical solution under the fundamental teachings of the patent in suit, and the impact of the invention on the industry and the public generally, the trial Judge erroneously held that in this case as a matter of law there was no substantial evidence to support the verdict of the jury.

The basic requirement of patentable invention (over and above novelty and utility) is accomplishment beyond “ordinary” skill in the art. *Hotchkiss v. Greenwood*, 52 U.S. 248, 267. The recent codification of the Patent Law makes this test a part of the statutory law, in declaring unpatentable an alleged invention that is “obvious” to a person having “ordinary” skill in the art. 35 USCA §103.

In an effort to define further what combinations are inventive; that is, patentable because not “obvious”, patentable because beyond “ordinary” skill in the art, the courts have formulated certain guides commonly called

“standards of invention” and so designated in the decision below (R. 74).

Thus in the *Hansen* case decided by this Court less than two months ago, the trial Judge was reversed for finding a patent not inventive and the following standard of invention was formulated by the Court:

“But a combination of such elements [i.e. old in the art] will still amount to invention if it performs a new and useful function.” *Hansen v. Safeway Stores*, 110 USPQ 170, 172-173.

We have shown above (pp. 25, 27) how the combination of the Potter patent did perform new and useful functions and operations. While the trial Judge appeared to recognize this standard in his oral opinion (R. 73), he ignored the evidence which showed that the Potter patent fully satisfied said standard.

Shortly before the *Hansen* decision, this Court sustained the validity of a patent for a novel combination in wall heaters as inventive in *Coleman Co. v. Holly Mfg. Co.*, 233 F. 2d 71, and discussed various standards of invention as follows (at 78, 79, 80):

“In examining the record in this case we have been fully mindful of the teachings of *The Great Atlantic and Pacific Tea Co. v. Supermarket, etc. Co.*, 340 U. S. 147, where the important question of patentability of mechanical devices came under close scrutiny. The Court there decided, *inter alia*, that ‘only when the whole (of a device the elements of which are old in the art) in some way exceeds the sum of its parts is the accumulation of old devices patentable.’ Since all of the devices here involved are mechanical contrivances the *Atlantic and Pacific Tea* case imposed upon the lower court the necessity of answering some pertinent fact questions posed by the record before it, and the contested issue of patentability of

and invention in the Holly device naturally presented such queries as: Were *all* of the elements of that device old, well-known or used in the art when it was patented? If so, does the 'whole' of the device 'in some way' exceed the sum of its parts? Is it 'wanting in *any* unusual or surprising consequences from the unification of its elements'? If all of its elements were 'old in the art' did they take on 'some new quality or function which produced a new and better result in the room-heating art from being brought into concert'? If so, did these elements then contribute to the room-heating art any new and unique quality and distinction which reflect novelty and utility and thus contribute any measurable and substantial advance in that art? The record reveals that these questions were considered and adequately answered by the lower court as will be apparent from its elaborate and sweeping findings which we later summarize.

"If we were to assume (which we do not) that *all* of the elements found in the Holly apparatus were old in the art when measured against elements, some of which were shown in one and some in another or more of the cited prior patents, we would still not come up with a wholly satisfactory answer to the question of patentability of the Holly machine. As far back as 1878 the Supreme Court, in a leading case, pointed out that the separate presence of the elements of a combination in three or four other patents in the prior art does not preclude a finding of invention when these elements are later so combined as to produce a new or better result. Judge YANKWICH applied this principle in *Kammerer Corp. et al. v. McCullough et al.*, 39 F. Supp. 213 at page 216. His judgment in that case was affirmed by this Court in *McCullough et al. v. Kammerer Corp. et al.*, 138 F. 2d 482, cert. dismissed 323 U. S. 327. In adhering to the principle above noted, the trial judge adopted language found in *Bates v. Coe*, 98 U. S. 31, 48, where the Court says:

‘Where the thing patented is an entirety consisting of a single device or combination of old elements, incapable of division or separate use, the respondent cannot escape the charge of infringement by alleging or proving that a part of the entire thing is found in one prior patent or printed publication or machine, and another part in another prior exhibit, and still another part in a third one, and from the three or any greater number of such exhibits draw the conclusion that the patentee is not the original and first inventor of the patented improvement.’

“We have referred to the *Atlantic and Pacific Tea* case because appellant insists that the Holly device is nothing more than an aggregation of old elements which were incorporated in one or the other of the various prior art patents cited by it as evidence of anticipation, with particular emphasis on the three fireplace devices we have described.” * * *

“This suggestion poses the question whether this ‘economizer’ or secondary heat exchanger constitutes an ‘element’ in the Holly device which will (to quote the Supreme Court) ‘perform any additional *or different function*’ (i.e., a special purpose) when brought into concert with the other elements in the combination than it would perform out of it. The trial court was persuaded that it does perform exactly that sort of function, and so are we. From the entire record it appears that a ‘heat exchanger’ or ‘economizer’ of this peculiar construction and arrangement has never been embodied in any type of mechanical wall heater apparatus prior to its application and use in the Holly device. The earlier patented devices all of which were in evidence cannot be said to embody in any material way the dual heat-passing functional operation accomplished by the use of the upper box ‘economizer’ integrated into the complete Holly device. In our opinion this arrangement of parts has caused all of the elements incor-

porated in the Holly combination to cooperate in a new way to produce a new, useful and unexpected result in the room-heating art. This combination spells out both novelty and utility. As reduced to practice its attributes have caused the Holly device to take on a new and unique quality and distinction which clearly makes it a new and useful improvement in wall heaters fired with gaseous fuel and as such it represents a measurable and substantial advance and improvement in the room-heating art and a valuable contribution thereto.

“Furthermore, a careful look at the prior art patents in evidence makes it impossible to conclude that creating the compact wall combination in suit would have been a simple, obvious and fairly easy chore for a skilled mechanic familiar with room-heating problems after he had seen these Letters Patent and understood the construction and method of operation of the devices there described. In our view the whole of the Holly device yields ‘surprising consequences’ which others in the heating field failed to find ‘obvious’.”

As demonstrated above (pp. 25-8), elements of the Potter patent had a different and added function or operation in the combination than out of it; that therefore it did exceed the sum of its parts; that it did produce unusual or surprising consequences. Although the Trial Judge stated he recognized these standards of invention in his oral opinion, citing the *Jacuzzi* and *Kwikset* decisions of this Court (R. 72-3) he completely ignored the evidence which showed that the Potter patent satisfied all these guides.

Coleman v. Holly recognizes an important standard of patentable invention laid down by the Supreme Court of the United States which Judge SOLOMON erroneously ignored; namely, that “the thing patented is an entirety, consisting of a *single* device or combination of old elements, *incapable of division or separate use*”. General Electric’s attempt, noted above (p. 21), of two refrigerators

banded together and placed on a single set of legs is an example of aggregation capable of division or separate use. The combination in the *Jacuzzie* case presents another instance: there two separately operable old pumps were simply operated together in the same way on the same motor, 214 F. 2d 785, 791. The Potter combination, on the contrary, is a true combination, not aggregation, being composed of interrelated, co-acting elements. Its parts cannot be separated or divided into an operable freezing refrigerator and an operable moist cold refrigerator. The Potter patent combination is actually a single heat "pump" (the volatile refrigerant with its unified circuit including balanced heat-withdrawing surfaces and single liquefying unit) which extracts heat from *both* compartments, maintaining below-freezing in one and moist cold in the other. Furthermore, the Potter sub-combination with the differential of insulation uses the temperature of the moist cold compartment to regulate the temperature of the freezing compartment. This feature is not shown in any of the prior art of record. The Potter patent fully satisfied this standard of invention accepted by the Supreme Court and by this Court and ignored by the court below.

Coleman v. Holly sanctions a further important standard plainly applicable to the patent in suit, by which the patentability of new and useful combinations is to be guided, but which Judge SOLOMON erroneously ignored in his decision; namely, *where persons skilled in the art have in fact tried and "failed to find" the device in question*. This standard of invention was also laid down by the Supreme Court of the United States:

"Where the method or device satisfies an old and recognized want, invention is to be inferred, rather than the exercise of mechanical skill. For mere skill of the art would normally have been called into action by the generally known want." *Paramount Publix Corp. v. Amer. Tri-Ergon Corp.*, 294 U. S. 464, 474.

This standard of invention was held decisive in *Blaw-Knox Company v. I. D. Lain Company, Inc.* decided February 27, 1956, 230 F. 2d 373 (7 Cir.), where combination claims on a method and a mechanism for paving highways were held valid and the holding by the District Court under the *A & P Tea Co.* case that it was a mere aggregation accomplishing no new results was reversed. LINDLEY, *C.J.*, said at p. 376:

“All prior efforts to solve the problem had resulted in ineffectiveness. For the first time in the art, Bushnell demonstrated that his specific placement and prescribed relationship of the three elements in a road building machine furnished a complete answer to the problem. In other words, to our way of thinking, all this produced a new and a useful result which had not been accomplished by any of the workers in the art prior to that time.”

* * *

“This, it seems to us, brings the case within the teachings of *Great Atlantic & Pacific Tea Co. v. Supermarket Corp.*, 340 U.S. 147, 71 S. Ct. 127, 95 L. Ed. 162, from which it is clear that it constitutes patentable inventions to select elements out of old combinations while discarding others and to put them together in a new way, if a new and surprising result is achieved, or the new conjunctive elements exceed in whole the sum of its parts. See also *Lewyt Corp. v. Health-More Inc.*, 7 Cir., 181 F. 2d 855, cert. denied 340 U.S. 823 71 S. Ct. 57, 95 L. Ed. 605 (CA 7); *Helms Products, Inc. v. Lake Shore Mfg. Co.*, 7 Cir. 227 F. 2d 677.

“To say that Bushnell conceived mere aggregation with no new results is equivalent to saying that his achievement would have been obvious as a whole to a person having ordinary skill in the art to which it pertained, as those terms are employed in the Statute, 35 U.S.C. 103. But here the undisputed facts show beyond peradventure that the conception was not

obvious, that other workers in the art failed to comprehend the ideas disclosed by Bushnell or to suggest his successful solution of the troublesome problem. He was the first to accomplish a new and useful result. Upon this record, we think it clear that he made a patentable invention within the meaning of the statute.”

RECENT CASES IN ACCORD: *Stearns v. Tinker*, 220 F. 2d 49 (9 Cir. 1953), cert. denied, 350 U. S. 830, where the District Court was reversed and an insulation testing device held patentable; *Filtex Corp. v. Atiyeh*, 216 F. 2d 443 (9 Cir. 1954), quoting the Supreme Court as above and applying the standard to uphold a patent on a vacuum cleaner nozzle; *Pacific Contact Labs. v. Solex Labs.*, 209 F. 2d 529 (9 Cir. 1953), cert. den., 348 U. S. 816; *Patterson-Ballagh Corp. v. Moss*, 201 F. 2d 403 (9 Cir., 1953), upholding a patent on a wire line spooler or controller, a device to alleviate the lateral whip of an oil well drilling line, since others had tried and failed to solve this problem; *Flakice Corp. v. Liquid Freeze Corp.*, 130 F. Supp. 471, (N. D. Cal., 1955) (no appeal), upholding a patent on an ice cube apparatus that employed a wedge, the Court stating (at 487):

“Short produced a machine which filled a long felt need, which those skilled in the art had not been able to devise before him. It is true that in operation the principle is simple, but this does not detract from the invention. Indeed, it has enhanced it. It is the method which in the end operates simply which is most needed and which often is the most elusive. The presence of invention is not judged by reference to the accomplishments of Rube Goldberg.”

There was a long-felt need for a single, household refrigerator that provided continuous moist cold and continuous freezing temperatures and that eliminated manual

shut-downs for defrosting. The dehydration problem was particularly acute in the conventional household refrigerator. For years the industry's skilled refrigeration engineers tried but failed to come up with any practical commercial answers to this problem. The Potter combination solved it, as the public and the industry reaction demonstrated. The simplicity, once disclosed, of the Potter combination, was an added virtue. The patent in suit taught a combination which was the most efficient household refrigerator structure ever invented. It thus established what has remained to this day a standard type of household refrigerator, known to the trade as the moist cold type. Clearly, these facts establish invention of a high order, under the standard of invention followed by the Supreme Court and this and other Courts in the cases last cited, but wholly overlooked by Judge SOLOMON in his decision.

Last November this Court in *Ry-Lock v. Sears Roebuck*, 227 F. 2d 615, reversed the California District Court for the Northern District (Northern Division) and held a window screen locking device an inventive combination of old elements, saying at pp. 617-8:

"It is true that Ry-Lock utilized the principle of a lever in the manner we have previously described. It is also true that the principle of the lever is probably as old as the oldest mechanical art, but it must be borne in mind that Ry-Lock's patent was for a combination. There is no doubt but that the various parts utilized by Ry-Lock were, separately considered, old, but we think that the mere fact that Norquist utilized a collar operating on threads in a pin, and that Boomershine utilized the lever in an entirely different type of operation, is not sufficient to establish the defense of anticipation sought to be set up by Sears. Each of the elements making up Ry-Lock's combination performs a substantial and necessary function in bringing about new results. *Winslow Engineering Co. v. Smith*,

9 Cir., 223 F. 2d 438. In our view there is invention here, for the whole of what Ry-Lock has produced exceeds the sum of its parts, and it measures up to the standards of invention which this court has approved in the Winslow case, *supra*. Indeed, we are of the opinion that the finding of want of invention and of anticipation which the trial court made was inherently defective and insufficient.* * *

“This invention, made up by combination of elements, in a manner which was sufficiently new and novel to measure up to the accepted standards of invention, was not, in the language of *Himes v. Chadwick*, 9 Cir., 199 F. 2d 100, ‘a mere aggregation of a number of old parts’. Hence, a finding which, as here, picks out one element in one prior patent and another element in another prior patent as a demonstration of anticipation, is manifestly insufficient to overcome the presumption arising from the issuance of the patent, a presumption reemphasized by the existing Act. 35 U. S. C. A. §282.

“We hold therefore that the findings of lack of invention and of anticipation are clearly erroneous. Sears wholly failed to present a case to justify the findings made. The record compels a finding that the patent was valid.”

Similarly, as to the defense in this suit, (Anderson “plus” Larkin), picking “out one element in one prior patent and another element in another prior patent * * * is manifestly insufficient to overcome the presumption arising from the issuance of the patent, a presumption reemphasized by the existing Act.” This presumption of invention, to which the Potter combination is entitled, is strengthened by the facts that the Patent Office found invention a second time by allowing the reissue patent in suit; that in the *Stewart-Warner* case the jury and Judge LeBuy sustained the invention of the Potter refrigerator;

and that on the appeal of that decision, the Seventh Circuit acknowledged that the Potter machine was a patentable "improvement" 159 F. 2d 972, 976. (The defense of functional statement, upheld there, led to reissue—see former appeal in this Court 217 F. 2d 39—and that defense has now been dropped in this case R. 1489). Judge Solomon's decision erroneously gave no weight to this presumption of validity reemphasized by the new Patent statute and strengthened by the findings of invention by other tribunals.

In *Filtex*, cited above, this Court held as follows (at 445) :

"And, in addition to this, we have the presumption arising from the imitation of the patented article by the manufacturers of the alleged infringing device. As to this, we agree with what was said by Justice Hough, speaking for the Circuit Court of Appeals of the Second Circuit in *Kurtz v. Belle Hat Lining Co.*, 280 F. 277-281. 'The imitation of a thing patented by a defendant who denies invention, has often been regarded, perhaps especially in this circuit, as conclusive evidence of what the defendant thinks of the patent, and persuasive of what the rest of the world ought to think.'"

That defendant Admiral imitated the Potter combination is established by the evidence to be discussed below in the section on infringement. This "conclusive" or at least "persuasive" evidence of patentable invention was also overlooked by the court below.

In *Oxnard Cannery v. Bradley*, 194 F. 2d 655, this Court held (at pp. 656-7) :

"Appellants' first specification of error lies in the contention that there was no evidence to support the verdict of the jury on the issues of validity and infringement. In testing the sufficiency of evidence to sustain a verdict in favor of plaintiff, the evidence and all reasonable inferences deducible therefrom must be considered in the light most favorable to plaintiff and any conflict in the evidence must be resolved in favor of the

jury's findings. Where a jury, under instructions against which no complaint is made, finds for the plaintiff, plaintiff is entitled on appeal to have considered as true all evidence which was offered upon controlling issues and were entitled to all inferences reasonably to be drawn therefrom. *Zarek v. Fredericks*, 3 Cir., 138 F. 2d 689, affirming D.C., 49 F. Supp. 65."

The evidence we have set forth demonstrates Judge SOLOMON's entire disregard of this fundamental rule in reviewing the jury's verdict. The jury finding of patentable invention in the instant case was supported by record evidence which was totally ignored in the decision below. A combination of old elements is patentable if it satisfies standards of invention laid down by the recent cases cited. Judge SOLOMON's decision overlooked a number of such important guides. The substantial evidence shows that the Potter patent satisfies all these criteria of invention, both those stated in, and those omitted from, the District Court's opinion.

B. The Specification of the Patent in Suit Made the Disclosure Required by the Patent Law, 35 USCA §112, Concerning the Existence of a Fin Coil or Other Extended Surface Coil.

Whether the disclosure made by the specification of the patent in suit was sufficient to satisfy 35 USCA §112 was, of course, a question of fact which the jury's verdict resolved in favor of the patent.

Judge SOLOMON held that this finding was without basis, in one particular only. His entire opinion on the point is as follows (R. 74):

"I was also concerned about the fact that although it was conceded that the validity of the patent in suit is dependent upon the existence of a fin coil or other

extended surface coil, such a coil was not disclosed in the specification. Plaintiff's expert testified that by looking at the drawing he could tell that a fin coil or a brine tank was described. He, therefore, contended that a failure to disclose the fin coil in the specification did not invalidate the patent. However, it appeared to me that the requirements of 35 U.S.C.A. §112, had not been met."

Note that in the first sentence, the trial Judge speaks of "a fin coil *or other extended surface coil*". He thus indicated what is undisputed in the record; namely, that "extended surface coil" (a duct for enclosing the flow of volatile refrigerant with its extension or surface for withdrawing heat; other common names for the structure in the refrigeration art are "expander", "evaporator" or simply "coil" R. 761, 887, 895, 1171, 1190) has a number of species of which "fin coil" is only one. The term 'fin' simply refers to metal surfaces added to the duct surface, for the purpose of collecting or concentrating the heat. That also counteracts the evaporating temperature of the refrigerant, which is important in fixing temperatures of the heat withdrawing surfaces in contact with the air. Another example of extended surface coil is given in the second sentence above-quoted from Judge SOLOMON's opinion: "a brine tank". In this type the refrigerant-conveying duct is immersed in a tank of brine, which extends or adds to the heat-conducting surface of the duct (R. 1171, 1190).

It was well known that by the proper proportioning of the extended surfaces of the duct the temperature of the duct and its cooling surfaces can be varied within wide limits (R. 617, 856). In a freezing coil in which the temperature of the heat-withdrawing surface is below 32° F., the duct may be bare or have some extended heat-conducting surfaces. Such a coil is the standard element of a conventional refrigerator. For a non-frosting cooling coil, containing refrigerant at below 32° F. and having heat-

withdrawing surfaces maintained above 32° F., more extended heat-conducting surfaces are required. Fins such as those shown in Fig. 2 of the patent (R. 759, 601, 610-611, 615-616) are suitable for this purpose; other extensions then known are equally suited. There is no dispute that in 1930, and before, a freezing coil and a non-frosting cooling coil were available and known instrumentalities, in fact, stock items (R. 165-7, 218-219, 684, 851-2, 857).

The Potter patent explains that the freezing and cold storage compartments contain "preferably a brine tank" through which passes an expansion coil 22 called a "freezing coil". "The food storage compartment 14 is provided with a cooling coil 25 which draws refrigerant from the discharge end of the freezing coil 22" (col. 2, lines 53-55, and col. 3, lines 7-16).

As to the "freezing coil", the patent explains that "the expansion valve 23 is set to permit flow of refrigerant into the freezing coil which will provide a temperature approximating zero while the temperature in the cold storage compartment 13 will be in the neighborhood of twenty degrees" (col. 3, lines 30-35). As to the "cooling coil", the patent explains that it is to be non-frosting except where it enters the food storage compartment "where a slight amount of frosting" may occur, which is just another way of saying that its surfaces are to be above 32° F. (col. 6, lines 1-5). That slight frosting may occur at the entrance of the coil into the compartment is explained by the fact that, as seen in Fig. 1, the duct is bare, i.e. is not provided with fins or extended surfaces, in the first part of its travel into the food compartment. The patent also adds that the food storage compartment is to be non-frosting and that the "necessity for defrosting is entirely eliminated" (col. 5, lines 53-66).

The patent also explains that the "requisite difference of temperature between the cooling compartment 14 and the cold storage compartment can be maintained * * by * *

providing a proper ratio of the cooling elements for said compartments'' (col. 3, lines 44-51), which plainly means by proper proportioning of the heat-conducting surfaces of these elements.

This proportioning of the heat-conducting surfaces of the freezing coil and of the non-frosting cooling coil is brought out in the claims which all state the cooling refrigerator expander and the freezing refrigerator expander are to have "heat-conducting surfaces * * constructed and arranged to maintain its heat-conducting surfaces at a temperature'' above 32° F. in the case of the cooling coil and well below 32° F. in the case of the freezing coil. We believe this language of the claims is adequately supported by the specification; and their allowance by the Patent Office on reissue, where the claims were subject to especially careful scrutiny, represents the considered judgment of the Patent Office on this technical point of sufficiency of disclosure under 35 USC §112.

The patent does not prescribe the measurements of the heat-withdrawing surfaces to be used with either of the two refrigerating elements except as they are illustrated in the drawings. Such information was not required, for the proper proportioning of the surfaces to attain the results required by the patent. That was all well known. A skilled worker, having read the specification, would have no difficulty in properly selecting and using these coils and producing the Potter refrigerator. That was in substance admitted by defendant's expert (R. 1213-4) and could hardly have been denied in view of the evidence previously discussed showing that freezing and non-frosting cooling coils with extended surfaces were well known. The patent need not rely on the details of the drawing further than as described in the specification to furnish such well-known information.

Patents being addressed to those skilled in the art, there is never any need for a detailed description of devices which

were then well known such as expansion valves, thermostats or non-frosting coils. As said in *Loom Co. v. Higgins*, 105 U.S. 580, 586:

“That which is common and well known is as if it were written out in the patent and delineated in the drawings.”

This Court in *Anraku v. General Electrical Co.*, 80 F. 2d 958, said at p. 963:

“Although statements in cases may be found discussing the sufficiency of description [*Diamond Rubber Co. of New York v. Consolidated Rubber Tire Company*, 220 U.S. 428, 435, 31 S.Ct. 444, 55 L.Ed. 527; *Eibel Process Co. v. Minnesota & Ontario Paper Co.*, 261 U.S. 45, 66, 43 S.Ct. 322, 67 L.Ed. 523; and *General Electric Co. v. R. P. Mallory & Co.* (C.C.A. 2) 298 F. 579, 588], we have held that whether or not a disclosure is sufficient, is a question of fact, to be proved by the evidence. *Schumacher v. Buttonlath Mfg. Co.* (C.C.A.) 292 F. 522, 532. A description of the patent under the statute is sufficient if it will ‘enable any person skilled in the art * * * to make * * * and use the same.’ ”

* * *

“With regard to the usual contentions made by those claiming insufficiency of description, it was aptly stated in *General Electric Co. v. R. P. Mallory & Co.*, *supra*, 298 F. 579, page 588: ‘Patents often lend themselves to fine-spun theories; but it is singular how plain they are, if they are worth anything, to the man who wishes to infringe for profit.’ ”

Clearly, it was not necessary for Potter to detail in the specification either the particular type of heat-withdrawing surfaces which he showed in his drawing or their precise dimensions. These and alternatives were all well known (R. 218). The drawings merely amplified the specification

in respect to matters of detail which were unnecessary. As plaintiff's patent expert testified on cross-examination, the specification meets the requirements of the statute (R. 864-5; also 761). The statutory presumption of validity, the specification, Mr. Parker's expert opinion, the uncontradicted evidence that non-frosting coils are old in the art, and the other evidence demonstrate full compliance with the requirement of disclosure.

C. The Claims Were Sufficiently Definite to Satisfy the Statute.

Whether the claims of the patent in suit were sufficiently definite to satisfy the statutory requirement—

“particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention” (§112)

was, also, of course, a question of fact which the jury's verdict, and answer to special interrogatories (R. 65a-b) expressly, resolved in favor of the patent in respect to all four claims.

All that Judge SOLOMON stated on this point, in his decision, is the following (R. 74):

“I likewise was in doubt as to whether the claims were sufficiently definite to satisfy the statute.”

We note, firstly, this was only a “doubt” formed before the end of the case for plaintiff. We do not even know whether Judge SOLOMON retained the doubt at the time of decision.

Be that as it may, *a mere doubt on this point cannot support a holding adverse to the patent because of the presumption of validity.* The Judge being in doubt, the presumption prevails.

Moreover, upsetting the jury verdict as without basis was equivalent to the conclusion that no reasonable 12 jurors could find that the claims were sufficiently definite. Yet plainly a mere "doubt" of sufficient definiteness in the claims falls far short of such a conclusion. *Hence the decision on this point, necessarily, and on its face, fails to justify the setting aside of the verdict.*

Finally, the opinion does not say *what* the trial Judge's doubt was *in any particular whatever*. To invalidate a patent because of a completely unparticularized doubt, as to definiteness of the claims, is an arbitrary interference by the Court below with the patent system established by Congress. To brand a jury verdict as without basis or reason, because of such wholly unparticularized doubt, is a capricious frustration by the trial Judge of the plaintiff's constitutional right to trial by jury.

The patent was in evidence. Plaintiff's patent expert, Parker, interpreted the claims particularly and distinctly (R. 772-824, 887-935, 1334-84) and was firm in his opinion: "My opinion as to how these claims read and as to how the language should be interpreted has not been changed by anything I have heard Mr. Muffy (defendant's only witness) say" (R. 1382-3). The presumption of validity, the patent itself, and Parker's expert testimony fully support the verdict.

II. INFRINGEMENT OF THE PATENT IN SUIT BY DEFENDANTS' ACCUSED DEVICES WAS CLEARLY ESTABLISHED BY SUBSTANTIAL EVIDENCE.

Defendant Admiral's and defendant Amana's accused devices were identified and the defendants stipulated that if Admiral's accused devices infringed the patent in suit, then Amana's did so likewise (R. 823). The evidence therefore was directed to infringement by Admiral's accused devices.

The jury, by its verdict for plaintiff and answers to special interrogatories, found that the accused devices infringed all four claims (R. 65a-b). The trial Judge in his opinion did not disagree with the proposition that if the accused devices infringed any claim, they infringed all four.

Plaintiff's patent expert explained in most careful detail the grounds for his opinion that the claims of the Potter patent read squarely on the accused devices, and the jury credited his testimony.

The trial Judge held, nevertheless, that in two particular respects there was no basis for the jury's finding of infringement. We shall discuss, separately, these two particulars, demonstrating that the lower Court's holdings were clearly wrong as to each.

A. Whether or Not "They Were Cold-Wall Refrigerators As Distinguished from the Fin-Type", the Accused Structures Infringed the Claims of the Patent in Suit.

The Trial Judge's entire holding on this point is as follows (R. 75):

"There was no dispute about the structure of the accused devices. They were cold wall refrigerators as distinguished from the fin-type refrigerator which is exemplified in the patent in suit."

The holding, therefore, stands or falls with his assumption that the patent in suit "exemplifies" a *fin-type refrigerator*. Now the undisputed evidence is, and the Trial Judge so held (R. 74), that the term "*fin*" does not appear even once in the entire patent. (See the patent in suit; R. 864; 1210). Moreoever, a *fin per se* was not the subject of the patent (R. 862). What was essential to the invention, and was amply disclosed in the specification, was a non-frosting

coil which could be either a finned coil or any other type of extended surface coil such as a brine tank. *There is thus no support whatever for the Judge's holding that the patent in suit was an example of a "fin type". Indeed, the undisputed evidence demonstrates the precise converse.*

The patent teaches that by proper proportioning of the surfaces of the freezing coil and the non-frosting cooling coil, the heat-withdrawing surfaces can be maintained at the desired temperature, i.e. well below 32° F. in the case of the freezing element and above 32° F. in the case of the non-frosting cooling element. As we have shown, it was well known in 1930 how to produce non-frosting cooling elements by the use of extended heat-withdrawing surfaces and a number of such forms were known. In the drawings, the patent shows two forms, one a brine tank which might be called a cold-wall refrigerating element in connection with the freezing element and fins in connection with the non-frosting cooling element, but it is plain that the form of the extended heat-withdrawing surface was not a matter of substance for the particular fin form is not even mentioned in the specification and the claims contain no limitation to the form of the heat-withdrawing surfaces. In view of the diagrammatic disclosure in the drawing of both a cold-wall type and a fin-type extended heat-conductive surface, it would be as logical to say that the patent exemplified both rather than either (R. 1210). The patent, however, is not limited to any particular exemplification of non-frosting heat-withdrawing surfaces.

The accused devices were, as the Judge said, "cold wall" refrigerators. The pertinent inquiry is, therefore, whether "cold wall" refrigerator is a species of extended surface coil genus. The jury verdict establishes the affirmative and the trial Judge did not hold otherwise. Moreover, the undisputed evidence shows affirmatively that the "cold wall" accused devices fall squarely into the class of "extended surface-coil" refrigerators defined by the claims of the Potter patent.

Astonishingly enough, the trial Judge was even wrong in distinguishing between "cold-wall" and "fin", for the evidence is that a cold-wall is only a kind of fin! 'Cold wall', 'cold plate', 'liner', 'sheet metal', like 'fin' are all terms descriptive of a metal surface in thermal contact with the surface of a metal tube (within which refrigerant flows), for the purpose of providing an 'extended surface coil', i.e. an expander or evaporator with extended heat-conducting surfaces. (Larkin, Davenport, Gibson patents in evidence). Defendant Admiral's chief engineer, Morton, conceded that the cold wall of the accused device was in thermal contact with the expander, and he quibbled that the cold wall was not a fin because it was less efficient! (R. 984-985). This is the same, of course, as saying that a cold wall is an inefficient fin, and that an inefficient fin is not a fin.

Even in the Morton patent, which most nearly described the accused, defendants' devices, the whole secondary system was characterized as a fin for the primary (R. 799, 898).

But apart from mere words as to whether cold wall or sheet metal is or is not a fin, *the experts for both sides were in agreement that the 'cold wall' or sheet metal, of the accused devices had the operation and function of providing extended heat-withdrawing surfaces for a duct within which refrigerant flowed* (R. 810-811, 903-905, 1232). The accused devices are, without question, examples of extended surface coil refrigerators, and within the coverage of the claims of the patent in suit. The trial Judge's holding to the contrary has no support whatever in the record.

B. The Accused Structures Had "A Single Liquefying Unit" of the Kind Defined in the Claims of the Patent in Suit.

The only other particular, in which the trial Judge held that the jury findings of infringement were without basis, is found in the following sentence of his opinion (R. 75):

“Likewise, all of the claims of the patent in suit call for a single liquefying unit; in the accused structures there were two liquefying units, each of which had its own volatile refrigerant flowing through a separate and distinct circuit.”*

This holding is fatally defective on two grounds:

FIRST: Contrary to the trial Judge’s statement, the evidence, including the testimony of Admiral’s engineer who designed them (R. 989), plainly shows that the accused devices have *only one liquefying unit*. Morton, the refrigerator engineer from Stewart-Warner who redesigned the Admiral refrigerator said (R. 989) “you don’t have a condenser in the secondary system” and Muffly, the engineering and patent expert witness for Stewart-Warner, Admiral and Amana, was careful to point out that a “liquefying unit” is a “condenser” (R. 1188-90, 1256).

* Following this sentence there appear, in the opinion below (R. 75-76), two paragraphs of general comments on the infringement issue which are neither accurate nor enlightening. Plaintiff counsel’s statement about improvement, printed at R. 1416-7, is not correctly paraphrased by the trial Judge. Neither did counsel concede that the doctrine of equivalents was inapplicable; he stated plaintiff did not need it to prevail here. The jury was not asked in any special interrogatory to find whether the refrigerator of the patent and the accused devices were “identical in structure”. The invention was a pioneer one (see pp. 16-30). But whether or not it was, plaintiff is entitled to prevail, since *every patentee is entitled to the fair intendment of his claims*. (35 U.S.C., §112, par. 3). Infringement is proved when the identical structure defined by the claims is *included in* the accused device. That the accused device contains some *additional* feature is immaterial, even if that addition may itself constitute patentable invention. *Cochrane v. Deener*, 94 U.S. 780, 787; *Machine Co. v. Murphy*, 97 U.S. 120, 125; *Cantrell v. Wallick*, 117 U.S. 689, 694; *Tempco v. Apco*, 275 U.S. 319, 328. The accused devices appropriate the Potter invention.

SECOND: Assuming *arguendo* that the statement in the decision quoted above is factually accurate, it does not lead to Judge SOLOMON's conclusion that the claims do not read on the accused devices. The Potter patent claims *re* the circuit (with its liquefying unit) read in words and substance precisely and only on defendants' primary circuit condenser or liquefying unit. The secondary liquefying unit, if any, referred to in the Judge's opinion, has no liquefying or condensing action on the refrigerant in defendants' primary system. It operates only on refrigerant in defendants' secondary system, as a part of that elaborate "fin". Furthermore, that separate refrigerant does not "extract heat". It merely transfers heat within the refrigerator to the heat extracting refrigerant in the primary circuit, whereby heat from "both compartments" is "extracted" as required by all claims.

Unless water is pumped out of a boat and over the sides the water will not be removed from the inside space. So in a refrigerator the mere circulation of heat by means of a pump within a refrigerated space accomplishes nothing by itself. This whirlpool action is all defendants' secondary circuit does. The heat must in some way be withdrawn or "extracted" from a refrigerated space and dissipated beyond the insulation to the outside atmosphere in order to refrigerate that space.

The specific element of the claims that is pertinent to the present inquiry is in identical language in all four claims and reads as follows:

"a single liquefying unit associated with said expanders and constructed and arranged to condense refrigerant expanded by heat extracted from both said compartments", (Patent col. 7, lines 11-15).

The primary system of defendants' devices precisely corresponds to the claims of the patent in suit. The liquid refrigerant starts its heat withdrawing journey from the

compressor-condenser set through two ducts or coils which are in series relationship as in the patent, and which carry refrigerant respectively to “extract” heat from the freezing and the cooling compartments, also as in the patent. It is as simple as that.

The source of the Judge’s confusion appears to lie in the fact, noted in the opinion (R. 75), that the secondary circuit, as well as the primary circuit, has refrigerant. The Judge appears to have reasoned that refrigerant always needs a liquefying unit, and that since each circuit had refrigerant each circuit had a liquefying unit. The error lies in the failure to relate the major premise of this syllogism to the clear words of the patent and the realities of the invention. The secondary circuit will not work without the primary and its liquefying unit.

Moreover, by the undisputed evidence, the claim language does not read on any supposed liquefying unit of the secondary circuit. Thus: the alleged liquefying unit of the secondary circuit would not be associated with *two* expanders but only one; and it would not condense refrigerant expanded by heat extracted from *both* the cooling and freezing compartments. Accordingly, there is in the accused devices just a “single liquefying unit” of the kind pointed out by the claims of the Potter patent.

This is what the jury found by its verdict and in its answer to the final special interrogatory as follows (R. 65 b):

“Do defendants’ refrigerators have only a single liquefying unit associated with refrigerant expanders (coils with or without extended surfaces) and constructed and arranged to condense the refrigerant expanded by heat extracted from both the compartments?

X ”

YES NO

We submit that this answer was compelled by the evidence, and there is nothing in the Judge's holding to contradict it.

C. Conclusion on Infringement

In short, infringement was clearly proved. The trial Judge's two grounds for ruling otherwise are all contained in two sentences of his opinion which we have quoted above in full and carefully analyzed in the preceding Sections A and B. We submit that the Judge's 'grounds' are nothing but a conglomeration of unsupported statements and fallacies. The opinion below evinces a disregard of logic, law, and the facts of record. We next turn to the equally arbitrary decision on damages.

III. THREE PERCENT ON THE RESALE SELLING PRICE OR FIVE PERCENT ON THE MANUFACTURER'S PRICE OF THE INFRINGING DEVICES SOLD BY DEFENDANTS IS A REASONABLE ROYALTY ON THE PATENT IN SUIT.

The amount of damages which plaintiff suffered by defendants' infringement of the patent in suit was, of course, a question of fact within the province of the jury. The jury verdict (R. 65b-66) assessed plaintiff's damages against defendant Admiral at \$2,093,180.00 and against defendant Amana at \$45,575.00. In view of the number of infringing devices which the undisputed evidence showed were sold by defendants, this damage finding established a reasonable royalty rate of 3 per cent of the resale selling price, or 5 per cent of the defendant manufacturers' price, of the infringing devices.

Judge SOLOMON held (R. 76) that "there is no rational basis for the amount of damages fixed by the jury". His stated ground for this conclusion appears in his oral opinion, as follows (R. 76):

“Even if this patent is valid and infringed, it was a minor improvement in a crowded field and in my view a royalty of 3 per cent on the selling price or 5 per cent on the manufacturer’s price is completely out of line. In addition to a few licensing agreements, none of which showed such a high rate, the only other evidence was the testimony of Mr. Parker based upon a hypothetical question, which assumed that the patent in suit was a pioneer patent or one that had made a long stride in the refrigeration art.

An examination of the file wrappers of the original patent, as well as the patent in suit, clearly showed that this was not the case.”

In substance, then, his ground was that “a minor improvement in a crowded field” is not worth “a royalty of 3 per cent on the selling price or 5 per cent on the manufacturer’s price”. The same trial Judge applied this alleged rule in another case and fixed 1½ per cent as the reasonable royalty. This Court reversed the decision as “clearly erroneous”, holding that the royalty should have been at least 5 per cent, the rate established by licenses under the “minor improvement” on a gate valve. *U. S. National Bank v. Fabri-Valve*, 110 USPQ 77 (9 Cir., June 14, 1956).

The trial Judge was clearly in error here in holding that the royalty rate which the jury set was excessive because the patent in suit was, in his opinion, a minor one. Characterizations of the patent by the trial Judge as “major” or “minor”, in this context, are not enlightening guides in determining whether a jury’s finding of a reasonable royalty is or is not without “rational basis”, since what is major or minor is itself a question of fact which, as the trial Judge recognized in his instructions to the jury (R. 1481), must be answered by the jury on the entire record. The trial Judge’s conclusion that the patent is “minor” represents merely his opinion which he improp-

erly substituted for that of the jury. This was error of law, including abuse of discretion.

The statute requires an infringer to pay "in no event less than a reasonable royalty", and provides that the amount thereof may be established by expert opinion. 35 U. S. C. §284. *Alliance Securities Co. v. DeVilbiss Mfg. Co.* 76 F. 2d 503, 505 (6 Cir., 1935). What is a reasonable royalty must, of course, depend, in "each case [on] its own peculiar facts and circumstances". *Enterprise Mfg. Co. v. Shakespeare Co.*, 141 F. 2d 916, 920 (C. A. 6, 1944). In this Court it is therefore axiomatic that the amount of damages to be awarded is uniquely a jury function not to be judicially interfered with unless so grossly and manifestly excessive as to shock the conscience of the Court; see *Cutter Laboratories v. Lyophile-Cryochem Corp.*, 179 F. 2d 80, 91 (9 Cir. 1949). The jury's verdict in this case was more than amply supported by the *uncontested* testimony of plaintiff's expert, Mr. Parker.

Mr. Parker was asked to assume certain facts, as follows (R. 837-840):

"that a valid hypothetical patent alike in all respects to the Bronaugh and Potter patent No. 2,056,165, and issued on an application filed in 1931 and reissued on December 14, 1948, as Reissue No. 23,058, which hypothetical reissued patent contains the claims of Reissue Patent No. 23,058 in suit and which you have read to the jury; further assume refrigerators embodying the function and structural features of such hypothetical patent and such claims, and that such refrigerators were placed on the market in 1932 and were the first to provide in a single compact unit for household use a compartment for the preservation of fresh foods in a moist cold atmosphere above freezing temperature and a separate compartment for freezing and preserving other foods safely for long periods of time in frozen state at temperature substantially below the

freezing temperature; that such refrigerators for the first time brought refrigeration of a kind claimed to the home, that such refrigerator for the first time provided a household unit wherein, without the use of covered pans, the moisture of the foods stayed in the food instead of being dried out; that such refrigerators eliminated frosting and defrosting of the chilling element in the compartment for the preservation of foods at temperatures above freezing; that such refrigerators constitute the first major improvement in refrigeration for many years; and that in such refrigerators the transference of odors from one kind of food to another is minimized; that such refrigerators constituted a brand-new idea in refrigeration, not just a new model; that such refrigerators proposed such advantages that they were sold largely as replacement for conventional refrigerators; that such refrigerators afford larger possibility of profit per unit to the manufacturer or his distributors and that such refrigerators have a retail value ranging from \$359.50 to \$449.50 for Amana and \$389.95 to \$529.95 for Admiral, which is substantially greater than conventional refrigerators of comparable size; and assume further that the conventional refrigerators which had been produced in the United States in and prior to 1931 dried out the natural moisture of the foods stored therein because of the frosting of the chilling element within the food chamber, and that said fact had existed from the beginning of electrical refrigeration during which time a substantial amount of household electric refrigerators were produced in the United States and that the largest manufacturer of household refrigerators in the United States which maintains a staff of trained competent specialists in various branches of engineering, devoting their entire time to experimental work for the further development and improvement of the company's products, which include items in addition to household electric refrigerators presented in 1930 as

its solution of the problem of food dehydration in household refrigerators a covered pan having a small cubicle content as compared with the cubicle content of the food chamber in the conventional refrigerators; and that the second largest manufacturer of household refrigerators in the United States, which also maintained a comparable staff of trained competent specialists attempted unsuccessfully at about the same time to place on the market two conventional refrigerators fastened together to minimize the same dehydration problem by operating said refrigerators simultaneously at different temperatures; assume further that a patent alike in all respects to Admiral's Patent No. 2,636,228, Exhibit 19-CC, covering a rubber gasket for a refrigerator door had since 1952 been licensed to large rubber and refrigerator companies at a royalty of $2\frac{1}{2}$ per cent of the manufacturer's sales price; assume that in the years 1949 to 1953, inclusive, there were sold in the United States a quantity up to 165,000 such refrigerators covered by such hypothetical patent and the claims stated above; assuming these facts to be true, have you an opinion based upon your experience as to what would be a reasonable royalty to be paid for the nonexclusive rights to manufacture and sell such refrigerators in the United States during such period?"

These facts are supported by substantial evidence (See Appendix B to this Brief for record references). On these facts, Mr. Parker expressed the opinion (R. 842) "that 10 per cent of the net to the manufacturer is a fair royalty". Cross-examination (R. 935-938) disclosed no infirmity in this expert opinion and defendants offered no contrary expert testimony on value. Accordingly, the record affords substantial support for a royalty twice as large as that returned by the jury.

The Judge instructed the jury (R. 1481) that

“A pioneer patent would be entitled to a greater royalty than a narrow patent in a crowded field.”

Thus, it was for the jury to decide what practical importance the patent in suit had, commercially*, and what weight to give to the un rebutted opinion of plaintiff's expert. A rate only half that recommended by the sole expert who testified on the matter, whose opinion was predicated on facts of record, and who was not subjected to any serious cross-examination, clearly does not shock the judicial conscience.

The only evidence which the Judge below relied on, as a reason for ignoring the jury's estimate of the commercial importance of the patent, was (R. 76) “the file wrappers of the original patent, as well as the patent in suit”. Plainly, the judge was confusing two entirely different matters. The *technical* place of the patent in the art is only one factor to be weighed with all the others in estimating the *commercial* value of the patent. It has long been held that where an improvement, even though a small part of the whole machine or process, actually gives it its merit and essential features and causes it to pre-empt the market, then the patentee is entitled to damages based on all the benefits derived from the entire machine or process; *Goulds Mfg. Co. v. Cowing*, 105 U.S. 253, 26 L.Ed. 987 (1882), *Tatum v. Gregory*, 51 Fed. 446 (9 Cir., 1892). This is less than the situation here, because as the evidence of record shows, the invention here included the basic principle of operation of a new two-climate refrigerator.

*Quinn, Vice President of General Electric, in charge of refrigeration at the time, testified, expressly, as to the major importance, commercially, of this invention as follows (R. 669):

“Q. Did you regard this (the Potter moist cold development—see R. 668) as a minor development?

A. No, it was an important development. There is no question about that”

As this Court held, in *Filtex Corp. v. Amen Atiyeh*, 216 F. 2d 443, 448, (9 Cir., 1954):

“As to what would be a reasonable royalty presents a serious question. Many factors determine a reasonable royalty other than the precise improvement. The entire unit must be considered. However, it must be borne in mind that the defendant in this case is the wrongdoer and as stated in *Horvath v. McCord Radiator & Mfg. Co.*, 6 Cir., 100 F. 2d 326-335:

‘McCord is an infringer and the burden must be placed upon it as a wrongdoer and it is the duty of the court to find for Horvath with reasonable approximation that to which he is entitled and in so doing, there is no duty to exercise meticulous care to avoid a hardship on McCord.’

“It is earnestly contended by the defendant that the royalty of ten percent allowed by the Master was too high, but from an examination of the record we see no reason which would warrant disturbing the findings of the Master or the finding of the trial court sustaining his finding.”

In basing exclusive reliance on his jaundiced view of the “precise improvement” and in ignoring the factors of record bearing on the commercial value of the patent for an “entire unit”, the trial Judge applied an erroneous yardstick to the jury’s finding and erroneously ignored “the burden [that] must be placed upon” the defendant infringers.

The file wrappers and the patents were before the jury along with the other evidence of record. Not only was the royalty here allowed by the jury less than in most other reported comparable cases (see, e.g., *Power Specialty Co. v. Conn Light*, 80 F. 2d 874 (C.C.A. 2, 1936), where a royalty of 15% was deemed fair without regard to profits; *Natural Brake & Electric Co. v. Christensen*, 38 F. 2d 721 (C.C.A. 7, 1930), *cert. den.* 282 U.S. 864) but it was even less (3%—

5%) than would have been fully warranted under all the evidence (6%—10%). See *Baseball Display Co., Inc. et al. v. Star Ballplayer Co., Inc.*, 35 F. 2d 1, 3 (C.C.A. 3, 1929). The trial Judge was clearly wrong in upsetting the verdict.

IV. DEFENDANT ADMIRAL'S INFRINGEMENT WAS WILFUL AND DELIBERATE, JUSTIFYING MULTIPLE DAMAGES AGAINST IT.

The complaint (R. 27, par. IX) claimed trebled damages against defendant Admiral "by reason of the wilful character of said infringement". This issue of wilfulness was tendered to the trial Court (not jury) for decision and was resolved against plaintiff by dismissal of the complaint. That Admiral's infringement of the patent in suit was wilful is plainly established by the record.

Annexed to Admiral's answers to interrogatories, plaintiff's Ex. 4 CC 7 and 4 CC 8, are its agreements evidencing its 1945 deal with Stewart-Warner. That arrangement was begun just at the time of the patent suit against Stewart-Warner (R. 1116-9), and consummated after the trial court's decision therein establishing validity and infringement, and well before the reversal on appeal in 1947, of the trial judgment because of functional statement of the claims in the original patent. Admiral's timing was good as to this transfer of the infringing business of Stewart-Warner, for the price was obviously set in the light of the then unreversed judgment and with even a limited indemnity (R. 1118-9) in Admiral's favor against liability for certain continued infringement then contemplated by Admiral.

The 1945 deal was a complete sale of all refrigerator designs, good-will, technical know-how, etc., and all Admiral's trained personnel in the refrigerator manufacturing and sales field stemmed from Stewart-Warner. Admiral itself had nothing in that field before 1945.

Thus it is necessary to consider the sordid story of Stewart-Warner's attempts, under the guise of a request for license, to learn about the Potter original patent even before it had issued (R. 1079), its pre-patent testing of the Potter patented refrigerators, unfairly conducted according to Bommer (R. 1105-6), the post-patent operations of Stewart-Warner which led to financial disaster and disruption of the business of the owners of the original patent, the resulting suit against Stewart-Warner and other facts of record here and, more important, of record in the Stewart-Warner 1944 trial and hence known to Admiral, years before it began its infringement by a refrigerator closer in basic respects to the patent than was the Stewart-Warner refrigerator which was held, after a full trial, to embody the invention in this suit.

The reissue, as well as the original patent, were known to and studied by the same patent advisor to, and professional expert testifier for, Stewart-Warner in that case and Admiral in this. Glenn Muffly, who testified in the Stewart-Warner case and said "Well, anybody naturally likes to win and so do I" (SWR Vol. 3 p. 1713) was hardly an impartial expert or advisor.

Evans T. Morton was and is the chief refrigerator engineer of both Stewart-Warner and Admiral and the patentee of most of Admiral's refrigeration patents, including its 21½% royalty producing gasket patent. He admits (R. 976-979) to years of study of the Potter patent, with Muffly's aid. The first knowledge he had of a "Potter principle" in a refrigerator was obtained at Stewart-Warner (R. 964-5), though he knew of attempts by Norge to control humidity as early as 1934 (R. 963).

He redesigned for Admiral the Stewart-Warner refrigerator, the basic differences being substitution for the cold plate and differential pressure control of the Stewart-Warner moist cold system the primary-secondary transfer plate and secondary system of Admiral (R. 969-971). This

redesign was unquestionably not for the proper purposes of avoiding infringement of the patent in suit. The Admiral refrigerator was redesigned deliberately to come closer in 1948-1953 to the disclosure of Potter. The prior Stewart-Warner differential pressure and cold plate system, which was held to infringe the original patent, was not used in Admiral's, nor in Potter's, commercial refrigerators.

The damages awarded by the jury against Admiral should now be trebled because of the reckless, knowing and deliberate defiance and appropriation of the invention of the patent in suit.

V. DEFENDANTS EXERCISED DELAY AND BAD FAITH IN THE COURSE OF DEFENDING THE ACTION, JUSTIFYING AN AWARD TO PLAINTIFF OF COSTS AND REASONABLE ATTORNEYS' FEES.

The complaint sought (R. 28) costs and disbursements, including reasonable attorneys' fees, against both defendants. By dismissal of the complaint, the trial Court held against plaintiff on this issue. We submit that this was error, since the record plainly shows that the infringing defendants exercised delay and bad faith in the course of defending this action.

During the more than five years pendency of this action, defendants have asserted, abandoned, reasserted after adverse rulings, many of the defenses as set forth in the pre-trial order (R. 35-40 and 50-59) and elsewhere in this record. They are so numerous it would unduly burden this brief to attempt a complete listing here.

An example or two will suffice.

On November 25, 1955, in defendants' motion for a directed verdict, (R. 65, par. (f)) they contended that there was no proof of Admiral's differential insulation, but on December 5, 1955, in their motion for judgment (R. 69, par.

(f)) this contention was quietly abandoned by omission. On November 23rd, Admiral's Chief Development Engineer, called by plaintiff, had already testified, reluctantly to be sure, to "some very small differences" of insulation in the Admiral accused device (R. 951-2). These differences were sufficient for Mr. Parker to complete his expert testimony and point out infringement of Claims 3 and 4 (R. 1357-9).

In 1951 defendants' attorneys agreed, in writing, (Former Record on Appeal pp. 32 and 51), "There is no dispute concerning ownership of the patent by plaintiff, plaintiff's right to sue for past infringement". The trial Judge signed this agreed statement and expressly stated that said order "shall not be amended, except by consent of both parties or to prevent manifest injustice". But as of November 14, 1955, defendants stated as their contention No. 5 (R. 56):

"Defendants and each of them have no knowledge as to the ownership of United States Letters Patent No. Re. 23,058 granted to L. J. Bronaugh and Thomas I. Potter and dated Dec. 14, 1948" * * *

This was done in the face of plaintiff's contention No. 6 (R. 42) which pointed out this 1951 admission. Thus, was plaintiff put to the unnecessary annoyance and expense of proving legal title by certified copies (Ex. 17) of publicly recorded documents and through a witness, Mr. Bronaugh, at the trial in November (R. 159), after this case had been in this Court and to the Supreme Court in the intervening four years on the defendants' written admission that title was not in issue.

Likewise, the defendants interposed the defense, baseless and intended to be prejudicial, and overruled by the trial Judge (R. 78), of unclean hands.

Furthermore, defendants filed two vexatious and dilatory suits for declaratory judgment against plaintiff in the

Southern District of New York, after plaintiff invited them (R. 5) to intervene in this action, which, years later, they dropped.

They also filed the ill-founded, unduly complicated motions for summary judgment which the trial Judge took from June 8, 1951, to March 21, 1953, to decide, almost 2/5ths of the life of the reissue patent. This delay has resulted in substantial loss to plaintiff.

THE VERDICT SHOULD BE REINSTATED

The Judge instructed the jury that (R. 1452) "the case has been fully and fairly tried". In his oral opinion, the trial Judge, while criticizing (unjustly, we submit) counsel on both sides (R. 77-78), decided (R. 77) that the "jury listened carefully to the evidence and tried to render an honest and intelligent opinion" and that the verdict did not reflect any "prejudice".

The sole ground upon which the trial Judge acted in entering judgment n.o.v. was equally the sole ground upon which he conditionally directed a new trial; namely that in his opinion (R. 78) there was no "basis" for the jury findings, in the respects enumerated, on "liability" (i.e. validity and infringement) and "damages". *Whether there is "basis" for a jury finding represents purely a question of law. Hansen v. Safeway Stores*, F. 2d

, 110 USPQ 170 (9 Cir., June 27, 1956). Since, as demonstrated above, there was substantial evidence to support the jury findings on validity, infringement, and damages, the holding of the Judge below to the contrary was *error of law, vitiating equally the judgment n.o.v. and the conditional order for a new trial.*

In his opinion the trial Judge noted (R. 76) his "hope that another trial could be avoided". Thus, he observed (*id*) that were this Court presented only with "the questions of

validity and infringement" this Court "could reinstate the verdict if they thought that I had erred."

The trial Judge thought, however, that (*id*) this Court did not have such power because he held that there was "no rational basis for the amount of damages fixed by the jury". It is evident that the trial Judge has confused two types of case: (1) where the new trial is directed because of a ruling of law; (2) where the new trial is directed in the exercise of judicial discretion. This Court regularly reviews rulings of law made by the District Courts and if such rulings of law are in error it reverses; if the new trial was directed because of the District Court's erroneous ruling of law, this Court, in reversing, directs reinstatement of the verdict. It is only in the second type of case, where the new trial direction is discretionary, that it is not subject to ordinary appellate review. But, as we have seen, the trial Judge in this case directed a new trial *solely* because of his ruling of law that there was no "rational basis", i.e. no substantial evidence, for the damage verdict. This ruling of law by the District Court was, as we have shown above (pp. 57-64), clearly wrong; the ruling thus falls, collapsing, also, the new trial direction which was vitiated by that error.

Moreover, where a finding by the trial Judge is itself without adequate basis in the authorities and the record, error of law has been committed. We submit, that as shown above, the trial Judge's holdings, upon which the new trial direction as well as the judgment n.o.v. depends, fly in the face of the authorities and the overwhelming evidence; they are erroneous, therefore, for this reason, too, as a matter of law, and both the judgment n.o.v. and the new trial direction are without foundation.

Of course, even discretionary directions for new trial are reviewed and reversed where discretion has been abused, since it is axiomatic in this and in all other U. S. Courts of Appeals that abuse of discretion by a District Court con-

stitutes error of law. Basic rights under the statutory patent system and constitutional guaranty of jury trial are in effect subverted by the decision below. To the scores of Potter backers, for whom the trial Judge expressed sympathy (R. 78, 1505), and who have persevered in this cause for well over 25 years, the observation of Cox, *J.*, in *Roth v. Harris*, 168 Fed. 279, 283 (2 Cir., 1909) well applies: "Men do not struggle for years to secure a valueless thing." Two juries have already vindicated plaintiff (and its predecessor) against defendants (and their predecessor). As the trial Judge acknowledged, the case has been fully and fairly tried and the verdict does not reflect any prejudice. Surely, it is unjust to require plaintiff to seek vindication from a third jury. We submit that, as demonstrated above, the record and the authorities so clearly and fully support the findings of the jury that the Judge's conditional order for a new trial should be reversed for clear abuse of discretion.

So. Pac. v. Guthrie, 186 F. 2d 926 (9 Cir.) *cert den.*
341 U.S. 904;

Covey Gas & Oil Co. v. Checketts, 187 F. 2d 561
(9 Cir. 1951);

Estabrook v. Butte Anaconda & Pac. Ry., 163 F.
2d 781 (9 Cir. 1947);

28 U.S.C. §2106.

CONCLUSION

The judgment n.o.v. and the conditional direction for a new trial should both be reversed, and the verdict reinstated, with damages trebled against defendant, Admiral, and costs and reasonable attorneys' fees recovered from both defendants.

Respectfully submitted,

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Appendix A

Statutes

§103. *Conditions for patentability; non-obvious subject matter*

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made. July 19, 1952, c. 950, §1, 66 Stat. 798.

§112. *Specification*

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof. July 19, 1952, c. 950, §1, 66 Stat. 798.

§282. *Presumption of validity; defenses*

A patent shall be presumed valid. The burden of establishing invalidity of a patent shall rest on a party asserting it. . . . July 19, 1952, c. 950, §1, 66 Stat. 812.

§284. *Damages*

Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court.

When the damages are not found by a jury, the court shall assess them. In either event the court may increase the damages up to three times the amount found or assessed.

The court may receive expert testimony as an aid to the determination of damages or of what royalty would be reasonable under the circumstances. July 19, 1952, c. 950, §1, 66 Stat. 813.

§2106. *Determination*

The Supreme Court or any other court of appellate jurisdiction may affirm, modify, vacate, set aside or reverse any judgment, decree, or order of a court lawfully brought before it for review, and may remand the cause and direct the entry of such appropriate judgment, decree, or order, or require such further proceedings to be had as may be just under the circumstances. June 25, 1948, c. 646, 62 Stat. 963.

Appendix B

Record References For Facts Underlying Mr. Parker's Expert Opinion as to a Reasonable Royalty

1. "that such refrigerators were placed on the market in 1932 and were the first to provide in a single compact unit for household use a compartment for the preservation of fresh foods in a moist cold atmosphere above freezing temperature and a separate compartment for freezing and preserving other foods safely for long periods of time in frozen state at temperatures substantially below the freezing temperature; that such refrigerators for the first time brought refrigeration of a kind claimed to the home;"
 1. Bronaugh, R. 97-108; Bartlett, R. 252; Kobernuss, R. 426-434, 437; Bommer, R. 505; 515, 630-5; Quinn, R. 654-5, 665; Zimmerman, R. 708-9.
2. "that such refrigerator for the first time provided a household unit wherein, without the use of covered pans, the moisture of the foods stayed in the food instead of being dried out;"
 2. Kobernuss, R. 429; Bommer, R. 515-6; Quinn, R. 660, Zimmerman, R. 708-9, 716-21.
3. "that such refrigerators eliminated frosting and defrosting of the chilling element in the compartment for the preservation of foods at temperatures above freezing;"
 3. Kobernuss, R. 430, 495; Bommer 515-9, 527-8; Eger, R. 1048.
4. "that such refrigerators constitute the first major improvement in refrigeration for many years;"
 4. Kobernuss, R. 427; Bommer, R. 505; 632-3; Quinn, R. 660-2, 665, 677-8.

5. "that in such refrigerators the transference of odors from one kind of food to another is minimized;"
5. Kobernuss, R. 429; Bommer, R. 517; Johnson, R. 1038.
6. "that such refrigerators constituted a brand-new idea in refrigeration, not just a new model;"
6. Kobernuss, R. 427; Bommer, R. 505, 510, 519-20, 632-3; Quinn, R. 660, 677-8, 695-9; Zimmerman, R. 710, 713; Morton, R. 1002-3.
7. "that such refrigerators proposed such advantages that they were sold largely as replacement for conventional refrigerators;"
7. Kobernuss, R. 434; Bommer, R. 521.
8. "that such refrigerators afford larger possibility or profit per unit to the manufacturer or his distributors;"
8. Siragusa, R. 1023; Johnson, R. 1054.
9. "and that such refrigerators have a retail value ranging from \$359.50 to \$449.50 for Amana and \$389.95 to \$529.95 for Admiral, which is substantially greater than conventional refrigerators of comparable size;"
9. Answers to Interrogatory by Admiral Ex. 4CC-1, by Amana 4DD.
10. "that the conventional refrigerators which had been produced in the United States in and prior to 1931 dried out the natural moisture of the foods stored therein because of the frosting of the chilling element within the food chamber, and that said fact had existed from the beginning of electrical refrigeration during which time a substantial amount of household electric refrigerators were produced in the United States;"
10. Kobernuss, R. 426-34; Bommer, R. 515-20, 526-7, 630-5.

11. "that the largest manufacturer of household refrigerators in the United States which maintains a staff of trained competent specialists in various branches of engineering, devoting their entire time to experimental work for the further development and improvement of the company's products, which include items in addition to household electric refrigerators presented in 1930 as its solution of the problem of food dehydration in household refrigerators a covered pan having a small cubicle content as compared with the cubicle content of the food chamber in the conventional refrigerators;"
11. Bommer, R. 526-7, 529, 588, 628; Quinn, R. 654-6, 658-9; Zimmerman, R. 707.
12. "that the second largest manufacturer of household refrigerators in the United States, which also maintained a comparable staff of trained competent specialists attempted unsuccessfully at about the same time to place on the market two conventional refrigerators fastened together to minimize the same dehydration problem by operating said refrigerators simultaneously at different temperatures;"
12. Bommer, R. 526-7, 588; Quinn, R. 651, 658-60, 664-5; Zimmerman, R. 708-9, 716-21.
13. "that a patent alike in all respects to Admiral's Patent No. 2,636,228, Exhibit 19-CC, covering a rubber gasket for a refrigerator door had since 1952 been licensed to large rubber and refrigerator companies at a royalty of 2½% of the manufacturer's sales price;"
13. Douglas, R. 745-6.
14. "that in the years 1949 to 1953, inclusive, there were sold in the United States a quantity up to 165,000 such refrigerators covered by such hypothetical patent and the claims stated above".
14. Answers to Interrogatories, Ex. 4-CC-1 and 4-DD.